



中认信通

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



TEST REPORT

Applicant: Globalscale Technologies INC

Address: Building43,Industrial zone5,Huaidecuigang Fuyong Street,Baoan District

FCC ID: YCJ-GTIRW610N

Product Name: Wi-Fi6+BLE module

Standard(s): 47 CFR Part 15, Subpart E(15.407)

ANSI C63.10-2013

KDB 789033 D02 General U-NII Test Procedures New
Rules v02r01

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: CR230848801-00CM1

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Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230848801-00C	Original Report	2023/10/13
2.0	CR230848801-00CM1	Added 5720MHz Radiated Spurious Emission test	2023/12/14

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

1.1.1 General:

EUT Name:	Wi-Fi6+BLE module
EUT Model:	GTI-RW610N
Operation Frequency:	5180-5240 MHz (802.11a/n ht20/ac vht20/ax hew20) 5260-5320 MHz (802.11a/n ht20/ac vht20/ax hew20) 5500-5720 MHz (802.11a/n ht20/ac vht20/ax hew20) 5745-5825 MHz (802.11a/n ht20/ac vht20/ax hew20)
Maximum Average Output Power (Conducted):	14.06 dBm in 5150-5250 MHz Band 12.64 dBm in 5250-5350 MHz Band 15.59 dBm in 5470-5725 MHz Band 15.94 dBm in 5725-5850 MHz Band
Modulation Type:	802.11a/n/ac/ax:OFDM-BPSK, QPSK, 16QAM, 64QAM,256QAM
Rated Input Voltage:	DC 3.3V
Serial Number:	2A8G-2 (For RF Conducted Test) 2A8G-4 (For AC line conducted emission and radiated spurious emission Test)
EUT Received Date:	2023/8/22
EUT Received Status:	Good

1.1.2 Operation Frequency Detail:

For 802.11a/n ht20/ac vht20/ax hew20:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	52	5260	100	5500	149	5745
40	5200	56	5280	104	5520	153	5765
44	5220	60	5300	108	5540	157	5785
48	5240	64	5320	112	5560	161	5805
/	/	/	/	116	5580	165	5825
/	/	/	/	120	5600	/	/
/	/	/	/	124	5620	/	/
/	/	/	/	128	5640	/	/
/	/	/	/	132	5660	/	/
/	/	/	/	136	5680	/	/
/	/	/	/	140	5700	/	/
/	/	/	/	144	5720	/	/

Per section 15.31(m), the below channels were performed the test as below:

Test Channel	Test Frequency (MHz)			
	5150-5250MHz Band	5250-5350 MHz Band	5470-5725 MHz Band	5725-5850MHz Band
Lowest	5180	5260	5500	5745
Middle	5200	5280	5580	5785
Highest	5240	5320	5700	5825
Additional	/	/	5720	/

Note: Additional channels cross the band 5470-5725MHz and 5725-5850 MHz, Conducted output power/Power Spectral Density/bandwidth test with the additional channel to compliance with stricter limit of the two bands(5470-5725MHz more stricter).

1.1.3 Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain(dBi)
SHENZHEN HANGYANG ANTENNA DESIGN CO., LTD.	PIFA	50	5.15~5.25GHz	0.97
			5.25~5.35GHz	1.35
			5.47~5.725 GHz	1.88
			5.725~5.85 GHz	2.24

The Method of §15.203 Compliance:

- ☒ Antenna was permanently attached to the unit.
☐ Antenna use a unique type of connector to attach to the EUT.
☐ Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

1.1.4 Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:			The system was configured for testing in Engineering Mode, which was provided by the manufacturer.	
Equipment Modifications:			No	
EUT Exercise Software:			DutApiSisoApApp_RW610.exe	
The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:				
5150-5250 MHz Band:				
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting
802.11a	Lowest	5180	6Mbps	18
	Middle	5200	6Mbps	18
	Highest	5240	6Mbps	18
802.11n ht20	Lowest	5180	MCS0	17
	Middle	5200	MCS0	17
	Highest	5240	MCS0	17
802.11ax hew20	Lowest	5180	MCS0	17
	Middle	5200	MCS0	17
	Highest	5240	MCS0	17
5250-5350 MHz Band:				
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting
802.11a	Lowest	5260	6Mbps	18
	Middle	5280	6Mbps	18
	Highest	5320	6Mbps	18
802.11n ht20	Lowest	5260	MCS0	18
	Middle	5280	MCS0	18
	Highest	5320	MCS0	18
802.11ax hew20	Lowest	5260	MCS0	18
	Middle	5280	MCS0	18
	Highest	5320	MCS0	18
5470-5725 MHz Band:				
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting
802.11a	Lowest	5500	6Mbps	18
	Middle	5580	6Mbps	18
	Highest	5700	6Mbps	18
	Cross	5720	6Mbps	18
802.11n ht20	Lowest	5500	MCS0	18
	Middle	5580	MCS0	18
	Highest	5700	MCS0	18
	Cross	5720	MCS0	18
802.11ax hew20	Lowest	5500	MCS0	16
	Middle	5580	MCS0	16
	Highest	5700	MCS0	16
	Cross	5720	MCS0	16
5725-5850 MHz Band:				
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting
802.11a	Lowest	5745	6Mbps	18
	Middle	5785	6Mbps	18
	Highest	5825	6Mbps	18
802.11n ht20	Lowest	5745	MCS0	18
	Middle	5785	MCS0	18
	Highest	5825	MCS0	18
802.11ax hew20	Lowest	5745	MCS0	18
	Middle	5785	MCS0	18
	Highest	5825	MCS0	18

Note:

The system support 802.11a/n ht20/ac vht20/ax hew20, the ac vht20 were reduced since the identical parameters with 802.11n ht20.

The above are the worst-case data rates, which are determined for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.

1.2.2 Support Equipment List and Details

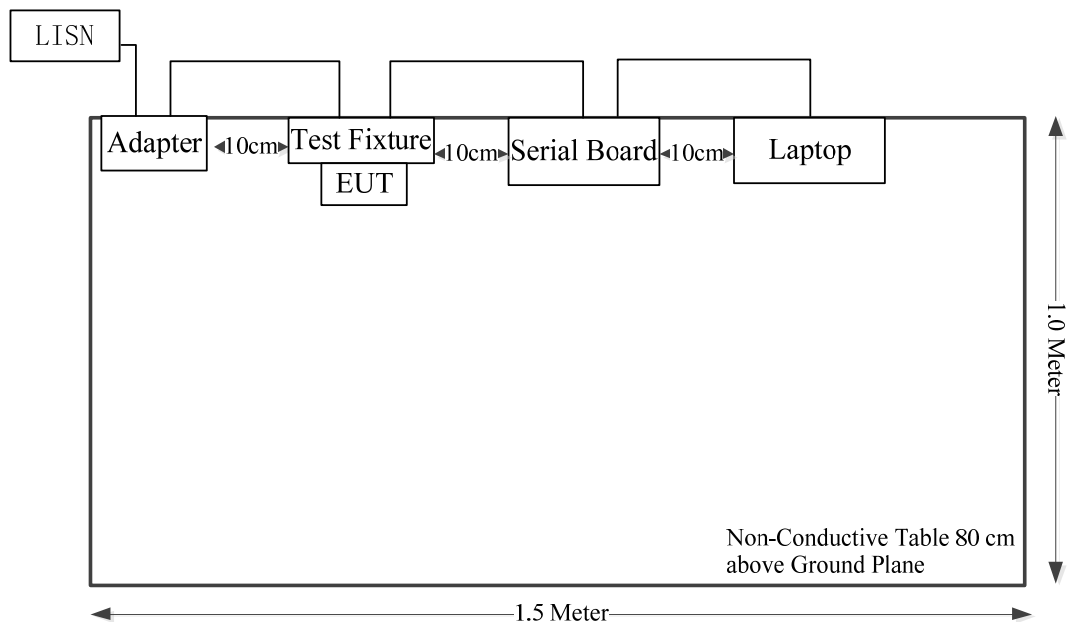
Manufacturer	Description	Model	Serial Number
Qihoo	Adapter	SK05T-2400200C	ZB1911120300180
Waveshare	Debug board	Serial	EMZBCB220330011
Lenovo	Laptop	E440	00331-10000-00001-AA380_01

1.2.3 Support Cable List and Details

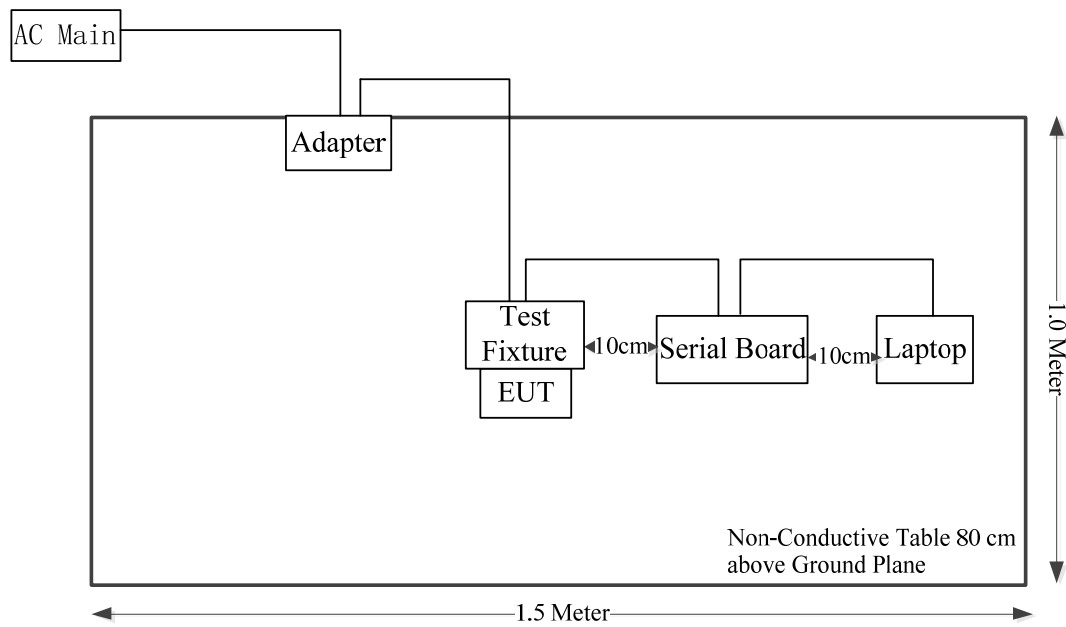
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Serial Cable	No	No	1.2	Serial Board	EUT
USB Cable	No	No	1.5	Laptop	Serial Board
DC Cable	No	No	0.8	Adapter	EUT

1.2.4 Block Diagram of Test Setup

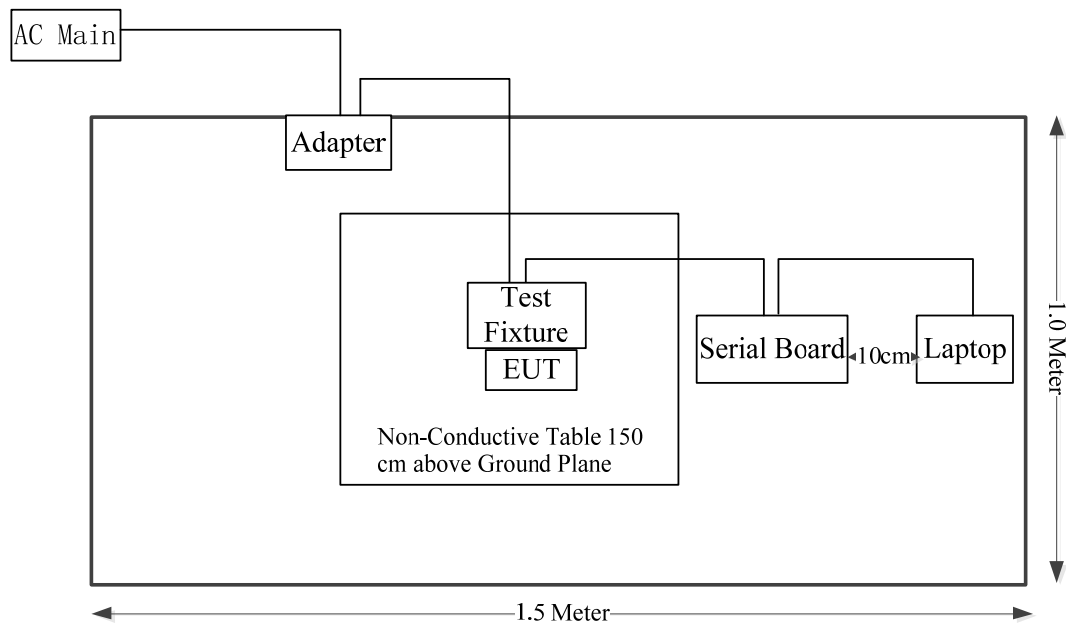
AC Line Conducted Emissions:



Radiated Spurious Emissions:
Below 1GHz:



Above 1GHz:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
§15.207(a)	AC line conducted emissions	Compliant
FCC§15.205& §15.209 &§15.407(b)	Radiated Spurious Emissions	Compliant
FCC§15.407(a) (e)	Emission Bandwidth	Compliant
FCC§15.407(a)	Maximum Conducted Output Power	Compliant
FCC§15.407 (a)	Power Spectral Density	Compliant
§15.203	Antenna Requirement	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

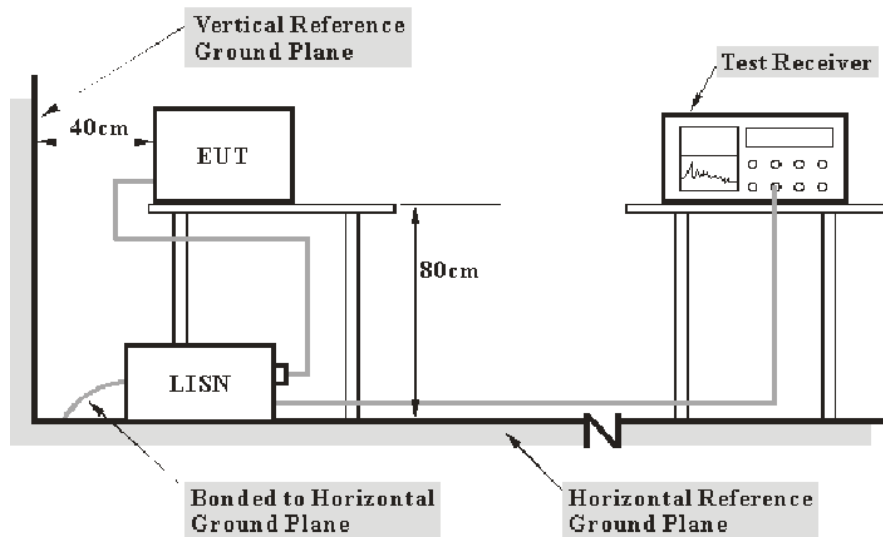
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μ V within the frequency band 535-1705 kHz, as measured using a 50 μ H/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

3.2.1 Applicable Standard

FCC §15.407 (b);

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of - 27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of - 27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of - 27 dBm/MHz.

(4) For transmitters operating solely in the 5.725-5.850 GHz band:

(i) All emissions shall be limited to a level of - 27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(8) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(9) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.

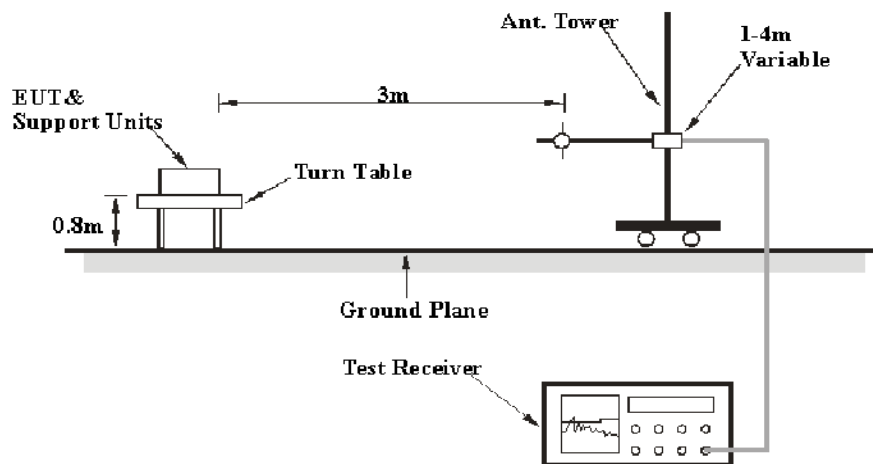
(10) The provisions of § 15.205 apply to intentional radiators operating under this section.

(11) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

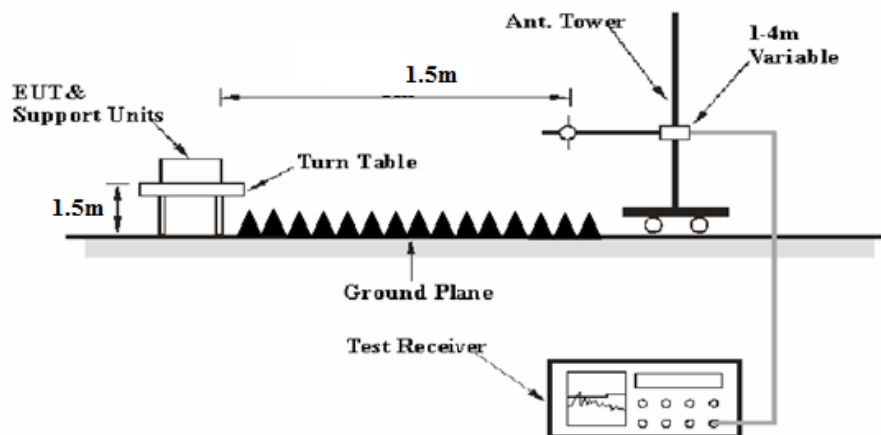
(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.2.2 EUT Setup

Below 1GHz:



1-40 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was FCC 15.209, FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

30MHz-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	$\geq 1/T$

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: $E [dB\mu V/m] = EIRP[dBm] + 95.2$, for $d = 3$ meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m

Distance extrapolation Factor = $20 \log (\text{specific distance } [3m] / \text{test distance } [1.5m])$ dB = 6.02 dB

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Factor = Antenna Factor + Cable Loss- Amplifier Gain

For 30MHz-1GHz:

Result = Reading + Factor

For 1GHz-40GHz

Result = Reading + Factor-Distance extrapolation Factor

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.3 Emission Bandwidth

3.3.1 Applicable Standard

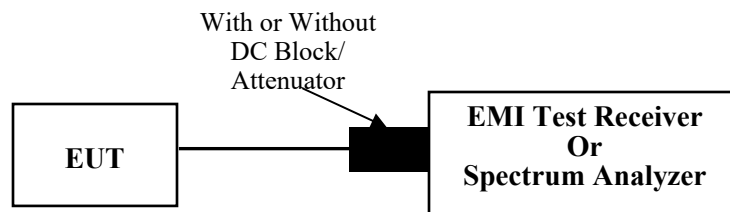
FCC §15.407 (a),(h)

(h)(2) Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

FCC §15.407 (e)

Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.3.2 EUT Setup



3.3.3 Test Procedure

26dB Emission Bandwidth:

According to ANSI C63.10-2013 Section 12.4.1

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = peak.
- Trace mode = max hold
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6 dB emission bandwidth:

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) ≥ 3 RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

The following procedure shall be used for measuring 99% power bandwidth:

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

3.4 Maximum Conducted Output Power

3.4.1 Applicable Standard

FCC §15.407(a) (1)(iv)

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

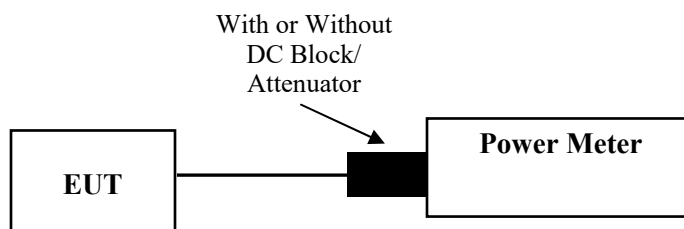
FCC §15.407(a) (2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.4.2 EUT Setup



3.4.3 Test Procedure

According to ANSI C63.10-2013 Section 12.3.3.1

Method PM-G is measurement using a gated RF average power meter.

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.5 Maximum Power Spectral Density

3.5.1 Applicable Standard

FCC §15.407(a) (1)(iv)

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

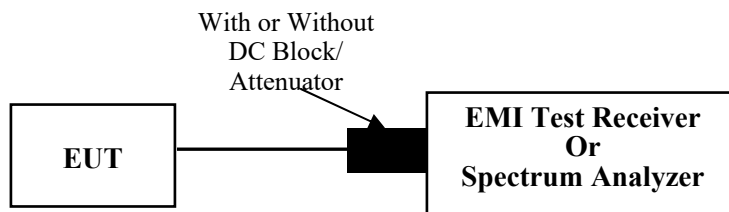
FCC §15.407(a) (2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.5.2 EUT Setup



3.5.3 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle $\geq 98\%$

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle $< 98\%$, duty cycle variations are less than $\pm 2\%$

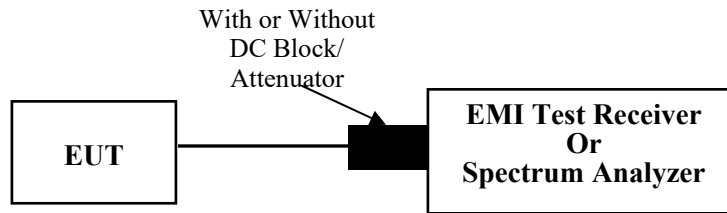
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle $< 98\%$, duty cycle variations exceed $\pm 2\%$

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

3.7 Duty Cycle

3.7.1 EUT Setup



3.7.2 Test Procedure

According to ANSI C63.10-2013 Section 12.2

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
- 3) Set $VBW \geq RBW$. Set detector = peak or average.
- 4) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)

3.8 Antenna Requirement

3.8.1 Applicable Standard

FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.8.2 Judgment

Result: Compliant. Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	2A8G-4	Test Date:	2023/9/26
Test Site:	CE	Test Mode:	Transmitting maximum output power mode (802.11ax 5785MHz was tested)
Tester:	David Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.5	Relative Humidity: (%)	54	ATM Pressure: (kPa)	100.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/3/31	2024/3/30
R&S	EMI Test Receiver	ESR3	102726	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/8/6	2024/8/5
Audix	Test Software	E3	190306 (V9)	N/A	N/A

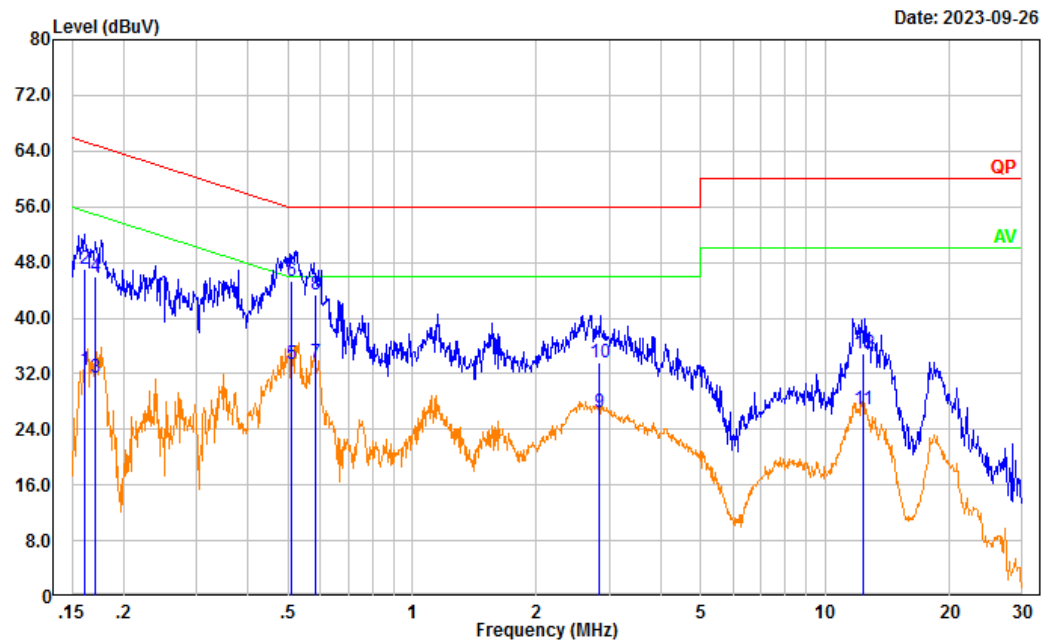
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Project No.: CR230848801-RF

Tester: David Huang

Port: Line

Note:



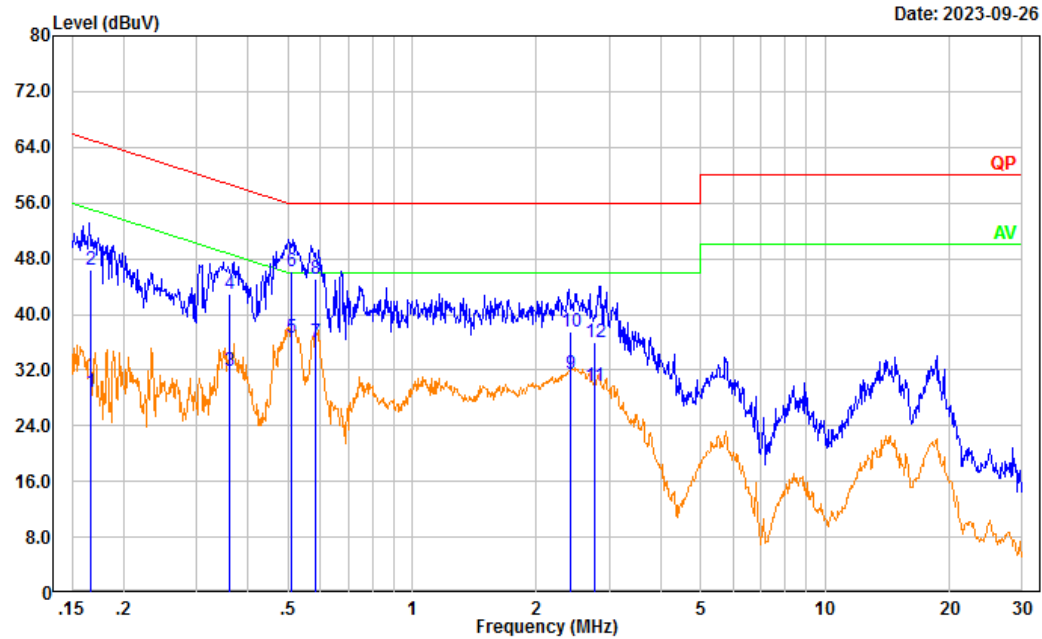
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.161	22.97	9.61	32.58	55.40	22.82	Average
2	0.161	37.46	9.61	47.07	65.40	18.33	QP
3	0.171	21.73	9.61	31.34	54.93	23.59	Average
4	0.171	36.39	9.61	46.00	64.93	18.93	QP
5	0.511	23.88	9.61	33.49	46.00	12.51	Average
6	0.511	35.78	9.61	45.39	56.00	10.61	QP
7	0.585	24.09	9.62	33.71	46.00	12.29	Average
8	0.585	33.68	9.62	43.30	56.00	12.70	QP
9	2.848	16.76	9.65	26.41	46.00	19.59	Average
10	2.848	23.85	9.65	33.50	56.00	22.50	QP
11	12.341	17.24	9.67	26.91	50.00	23.09	Average
12	12.341	25.15	9.67	34.82	60.00	25.18	QP

Project No.: CR230848801-RF

Tester: David Huang

Port: neutral

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.166	19.15	9.61	28.76	55.14	26.38	Average
2	0.166	36.68	9.61	46.29	65.14	18.85	QP
3	0.361	22.33	9.61	31.94	48.70	16.76	Average
4	0.361	33.23	9.61	42.84	58.70	15.86	QP
5	0.511	27.08	9.61	36.69	46.00	9.31	Average
6	0.511	36.62	9.61	46.23	56.00	9.77	QP
7	0.582	26.42	9.62	36.04	46.00	9.96	Average
8	0.582	35.49	9.62	45.11	56.00	10.89	QP
9	2.414	21.76	9.64	31.40	46.00	14.60	Average
10	2.414	27.81	9.64	37.45	56.00	18.55	QP
11	2.766	20.02	9.65	29.67	46.00	16.33	Average
12	2.766	26.34	9.65	35.99	56.00	20.01	QP

4.2 Radiation Spurious Emissions

Serial Number:	2A8G-4	Test Date:	2023/9/9~2023/12/12
Test Site:	966-2,966-1	Test Mode:	Transmitting
Tester:	Jeff Luo, Tao Zhu, Mack Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.1~26.7	Relative Humidity: (%)	58~68	ATM Pressure: (kPa)	100.1~101.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/2/22	2026/2/21
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/8	2024/11/7
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2022/9/16	2023/9/15
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5
E-Microwave	Band Rejection Filter	5150-5850MHz	OE01902423	2023/8/6	2024/8/5
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/8/6	2024/8/5
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

1) 30MHz-1GHz (maximum output power mode)

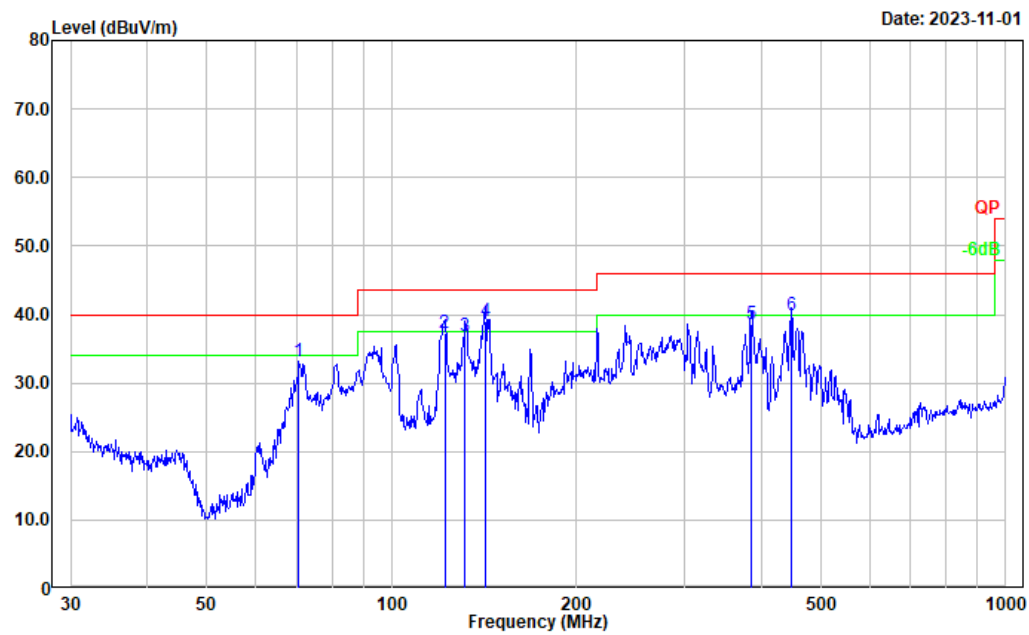
5150-5250MHz(802.11a mode): Low channel

Project No.: CR230848801-RF

Tester: Jeff Luo

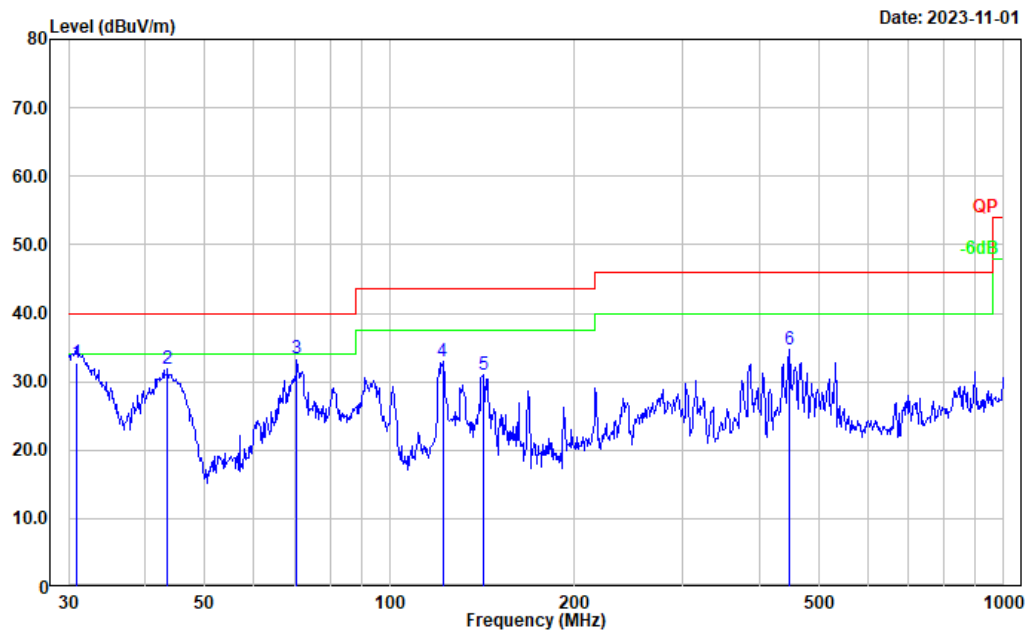
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	70.584	49.85	-16.62	33.23	40.00	6.77	Peak
2	121.976	48.64	-11.42	37.22	43.50	6.28	QP
3	131.758	48.33	-11.37	36.96	43.50	6.54	QP
4	142.324	50.95	-11.82	39.13	43.50	4.37	QP
5	385.281	47.63	-9.00	38.63	46.00	7.37	QP
6	446.414	46.98	-7.08	39.90	46.00	6.10	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.853	37.28	-4.45	32.83	40.00	7.17	QP
2	43.506	45.17	-13.40	31.77	40.00	8.23	Peak
3	70.584	49.90	-16.62	33.28	40.00	6.72	Peak
4	121.976	44.32	-11.42	32.90	43.50	10.60	Peak
5	142.324	42.91	-11.82	31.09	43.50	12.41	Peak
6	447.982	41.60	-7.02	34.58	46.00	11.42	Peak

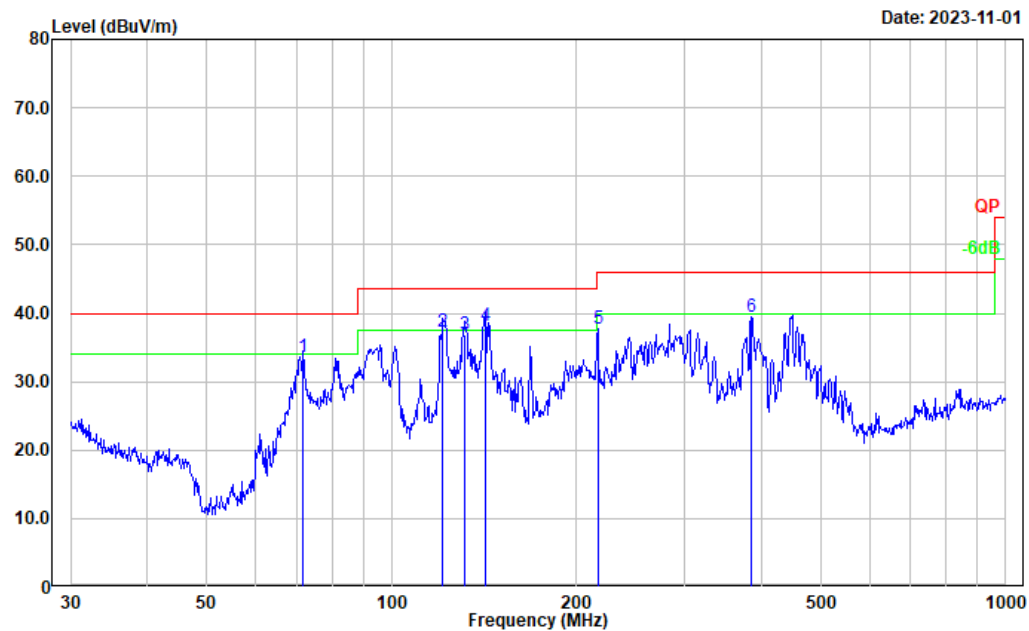
5150-5250MHz(802.11a mode): Middle channel

Project No.: CR230848801-RF

Tester: Jeff Luo

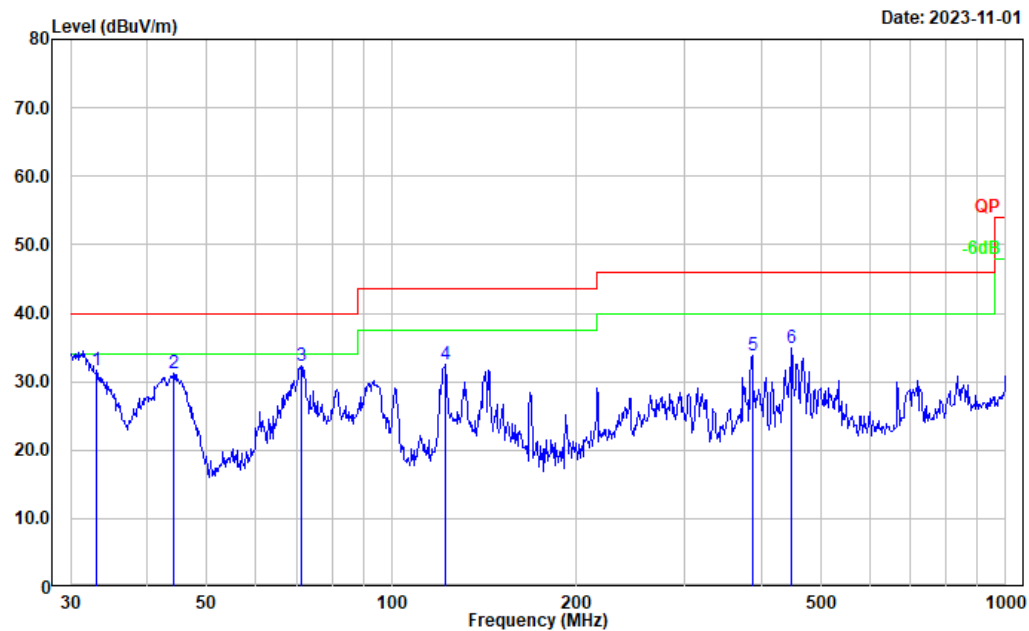
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	71.832	50.31	-16.74	33.57	40.00	6.43	QP
2	121.123	48.71	-11.44	37.27	43.50	6.23	QP
3	131.297	48.09	-11.34	36.75	43.50	6.75	QP
4	141.826	50.00	-11.82	38.18	43.50	5.32	QP
5	216.783	50.41	-12.72	37.69	46.00	8.31	Peak
6	385.281	48.48	-9.00	39.48	46.00	6.52	Peak

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	33.095	37.89	-6.16	31.73	40.00	8.27	Peak
2	44.120	44.98	-13.75	31.23	40.00	8.77	Peak
3	71.330	49.00	-16.70	32.30	40.00	7.70	Peak
4	122.404	43.90	-11.41	32.49	43.50	11.01	Peak
5	386.634	42.72	-8.97	33.75	46.00	12.25	Peak
6	447.982	42.02	-7.02	35.00	46.00	11.00	Peak

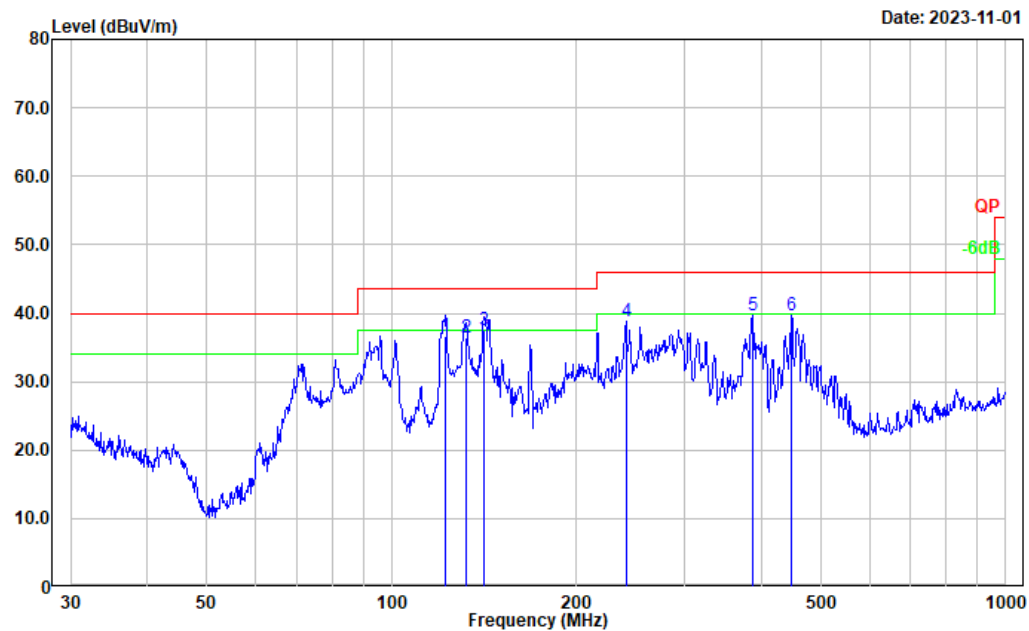
5150-5250MHz(802.11a mode): High channel

Project No.: CR230848801-RF

Tester: Jeff Luo

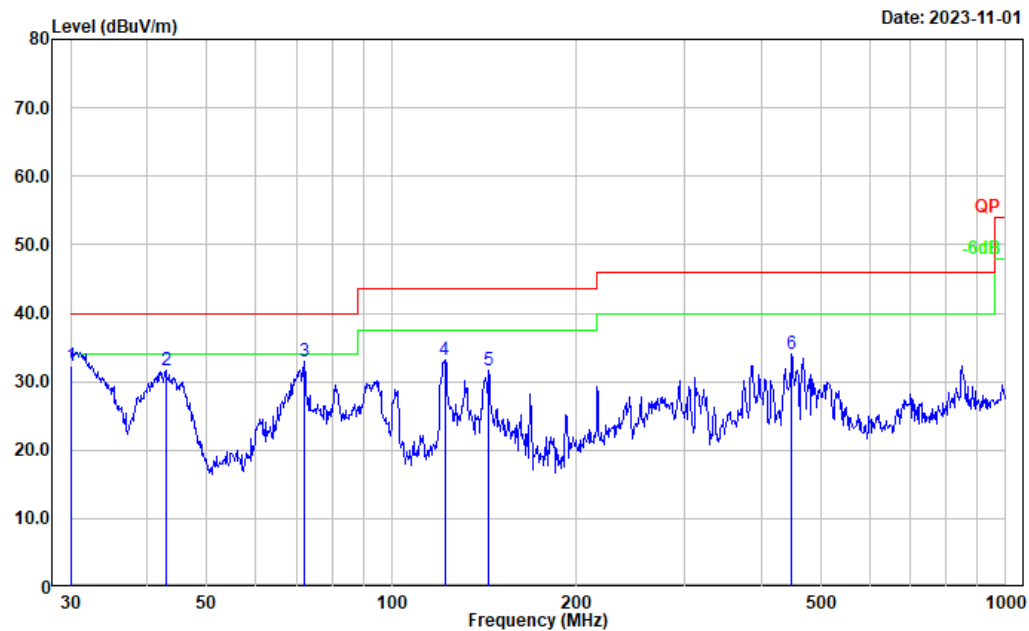
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	122.404	48.01	-11.41	36.60	43.50	6.90	QP
2	132.221	47.92	-11.40	36.52	43.50	6.98	QP
3	141.330	49.33	-11.83	37.50	43.50	6.00	QP
4	240.830	51.93	-13.10	38.83	46.00	7.17	Peak
5	386.634	48.74	-8.97	39.77	46.00	6.23	Peak
6	447.982	46.75	-7.02	39.73	46.00	6.27	Peak

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.000	36.10	-3.80	32.30	40.00	7.70	QP
2	42.900	44.79	-13.05	31.74	40.00	8.26	Peak
3	72.084	49.80	-16.77	33.03	40.00	6.97	Peak
4	121.976	44.49	-11.42	33.07	43.50	10.43	Peak
5	143.830	43.55	-11.86	31.69	43.50	11.81	Peak
6	447.982	41.02	-7.02	34.00	46.00	12.00	Peak

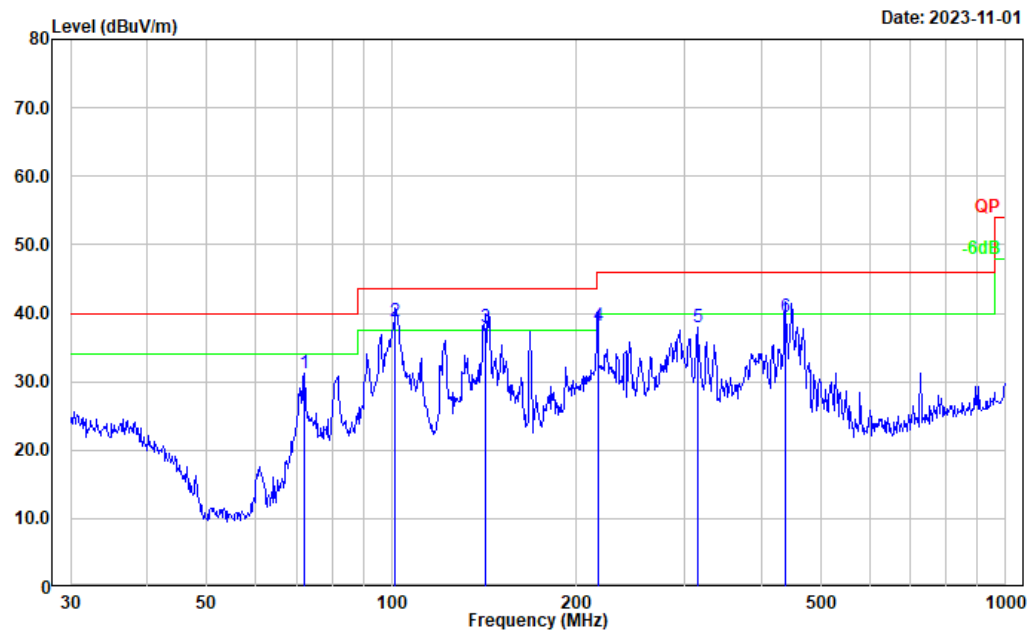
5250-5350MHz(802.11a mode): Low channel

Project No.: CR230848801-RF

Tester: Jeff Luo

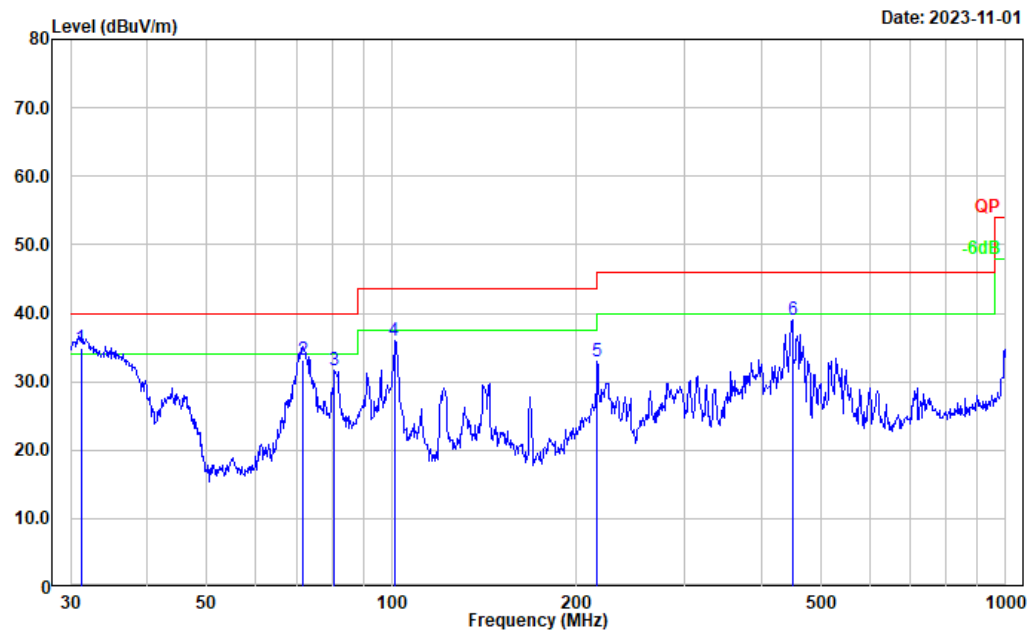
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	72.084	48.05	-16.77	31.28	40.00	8.72	Peak
2	101.289	52.77	-14.06	38.71	43.50	4.79	QP
3	142.324	49.74	-11.82	37.92	43.50	5.58	QP
4	216.783	50.95	-12.72	38.23	46.00	7.77	QP
5	314.377	48.62	-10.60	38.02	46.00	7.98	Peak
6	437.120	46.87	-7.32	39.55	46.00	6.45	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.180	39.52	-4.69	34.83	40.00	5.17	QP
2	71.832	49.97	-16.74	33.23	40.00	6.77	QP
3	80.644	48.96	-17.41	31.55	40.00	8.45	Peak
4	100.934	50.01	-14.10	35.91	43.50	7.59	Peak
5	216.024	45.62	-12.68	32.94	46.00	13.06	Peak
6	449.556	45.91	-6.97	38.94	46.00	7.06	Peak

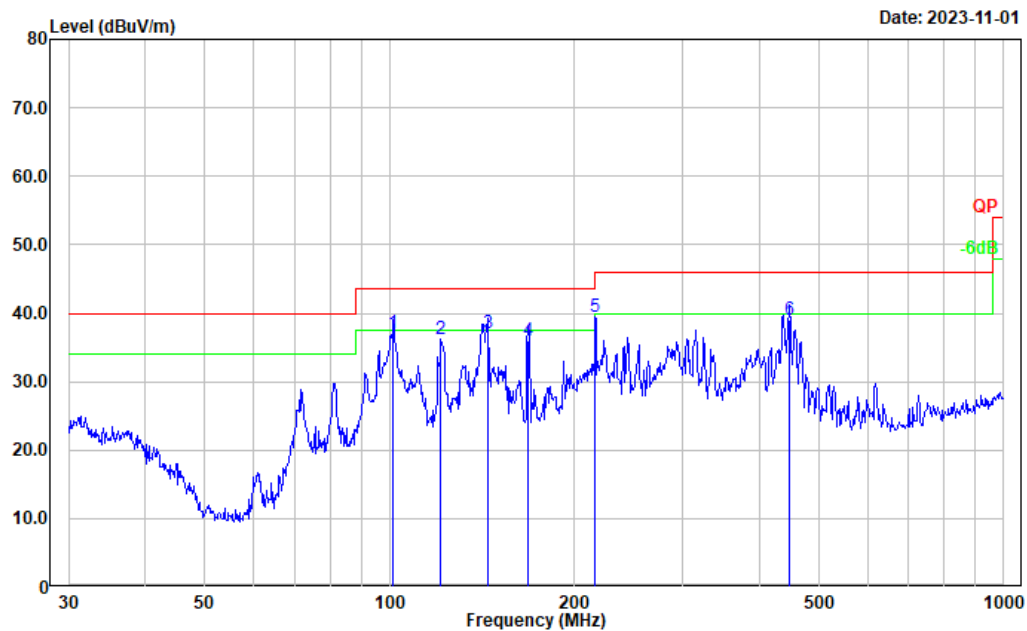
5250-5350MHz(802.11a mode): Middle channel

Project No.: CR230848801-RF

Tester: Jeff Luo

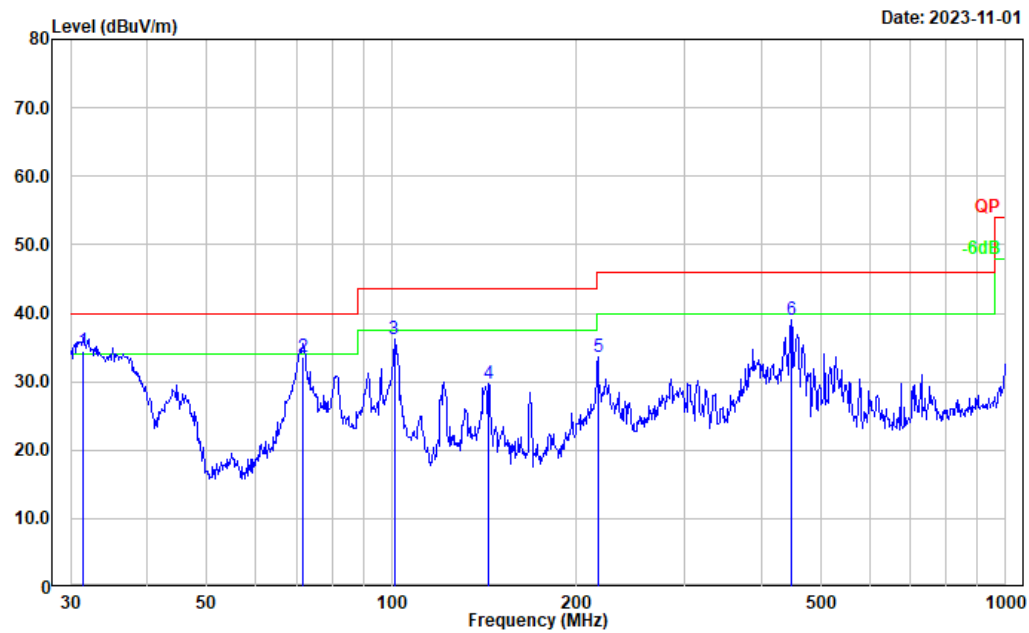
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	101.289	51.18	-14.06	37.12	43.50	6.38	QP
2	121.123	47.59	-11.44	36.15	43.50	7.35	Peak
3	144.842	48.99	-11.84	37.15	43.50	6.35	QP
4	168.414	48.76	-12.68	36.08	43.50	7.42	QP
5	216.024	52.22	-12.68	39.54	46.00	6.46	Peak
6	446.414	46.19	-7.08	39.11	46.00	6.89	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.510	39.34	-4.93	34.41	40.00	5.59	QP
2	71.832	50.31	-16.74	33.57	40.00	6.43	QP
3	100.934	50.28	-14.10	36.18	43.50	7.32	Peak
4	143.830	41.46	-11.86	29.60	43.50	13.90	Peak
5	216.783	46.34	-12.72	33.62	46.00	12.38	Peak
6	446.414	46.18	-7.08	39.10	46.00	6.90	Peak

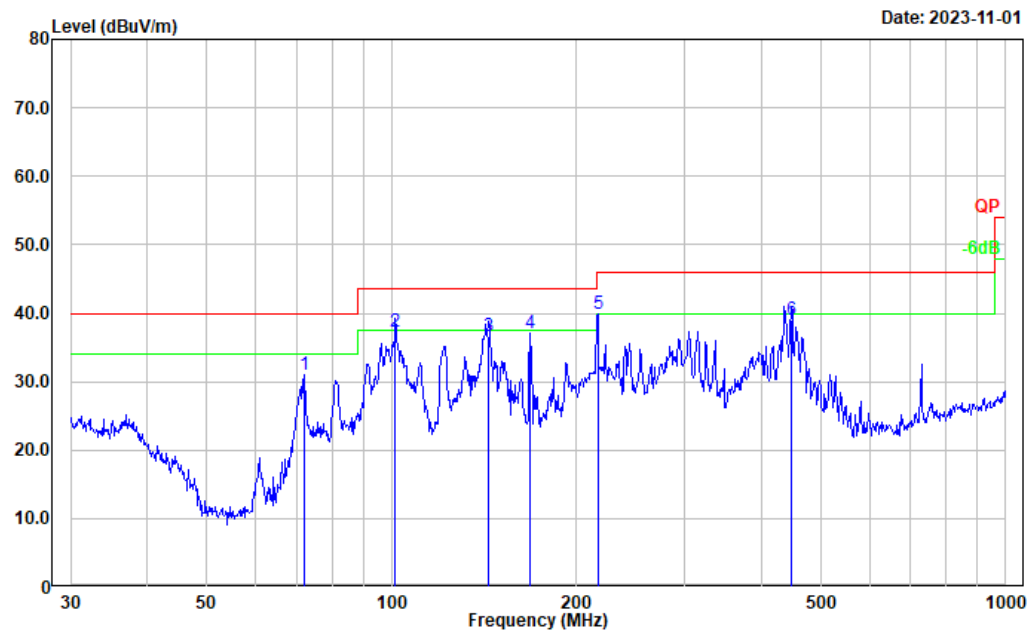
5250-5350MHz(802.11a mode): High channel

Project No.: CR230848801-RF

Tester: Jeff Luo

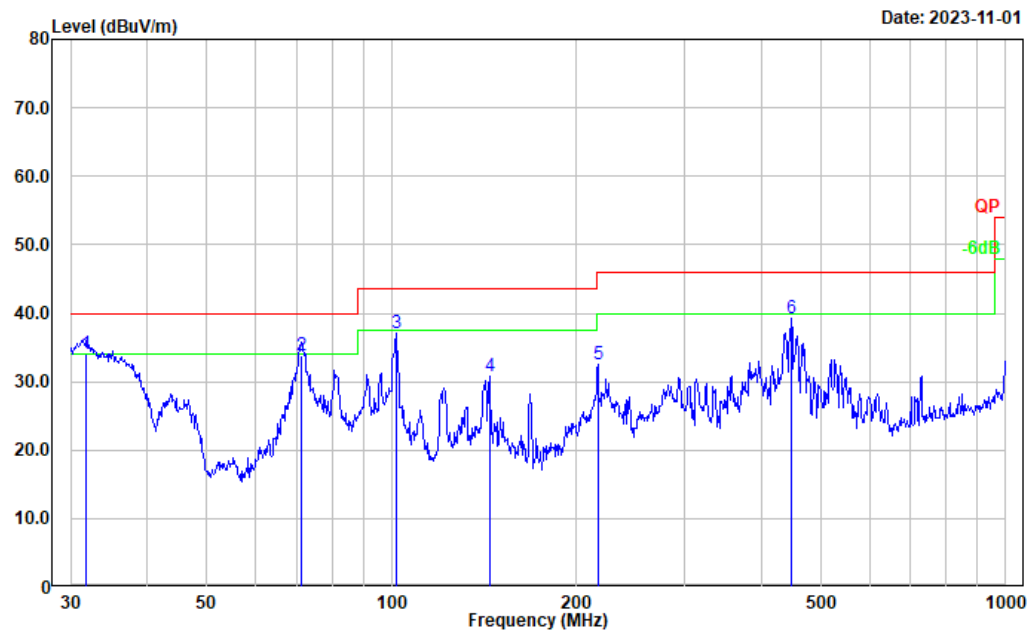
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	72.084	47.71	-16.77	30.94	40.00	9.06	Peak
2	101.289	51.40	-14.06	37.34	43.50	6.16	QP
3	143.830	48.59	-11.86	36.73	43.50	6.77	QP
4	167.824	49.76	-12.63	37.13	43.50	6.37	Peak
5	216.783	52.64	-12.72	39.92	46.00	6.08	Peak
6	447.982	46.04	-7.02	39.02	46.00	6.98	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.843	39.15	-5.18	33.97	40.00	6.03	QP
2	71.330	50.54	-16.70	33.84	40.00	6.16	QP
3	101.644	50.99	-14.02	36.97	43.50	6.53	Peak
4	144.335	42.68	-11.86	30.82	43.50	12.68	Peak
5	216.783	45.26	-12.72	32.54	46.00	13.46	Peak
6	447.982	46.23	-7.02	39.21	46.00	6.79	Peak

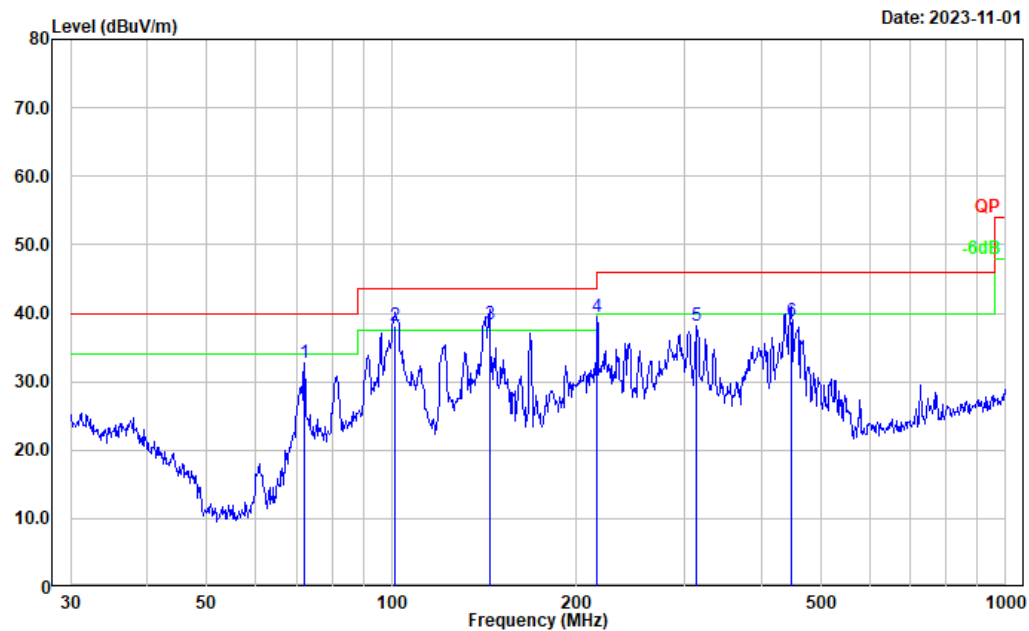
5470-5725MHz (802.11n ht20): Low channel

Project No.: CR230848801-RF

Tester: Jeff Luo

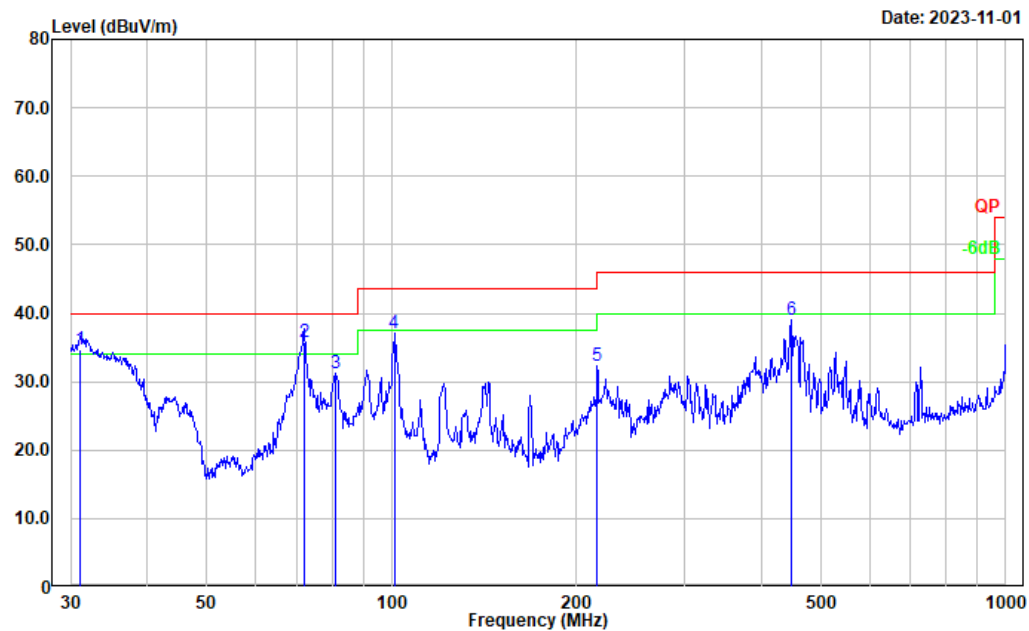
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	72.084	49.48	-16.77	32.71	40.00	7.29	Peak
2	101.289	52.11	-14.06	38.05	43.50	5.45	QP
3	144.335	50.30	-11.86	38.44	43.50	5.06	QP
4	216.024	52.10	-12.68	39.42	46.00	6.58	Peak
5	313.276	48.76	-10.60	38.16	46.00	7.84	Peak
6	446.414	45.95	-7.08	38.87	46.00	7.13	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.071	39.27	-4.61	34.66	40.00	5.34	QP
2	72.084	52.54	-16.77	35.77	40.00	4.23	QP
3	81.212	48.55	-17.38	31.17	40.00	8.83	Peak
4	100.934	51.07	-14.10	36.97	43.50	6.53	Peak
5	216.024	45.07	-12.68	32.39	46.00	13.61	Peak
6	446.414	46.07	-7.08	38.99	46.00	7.01	Peak

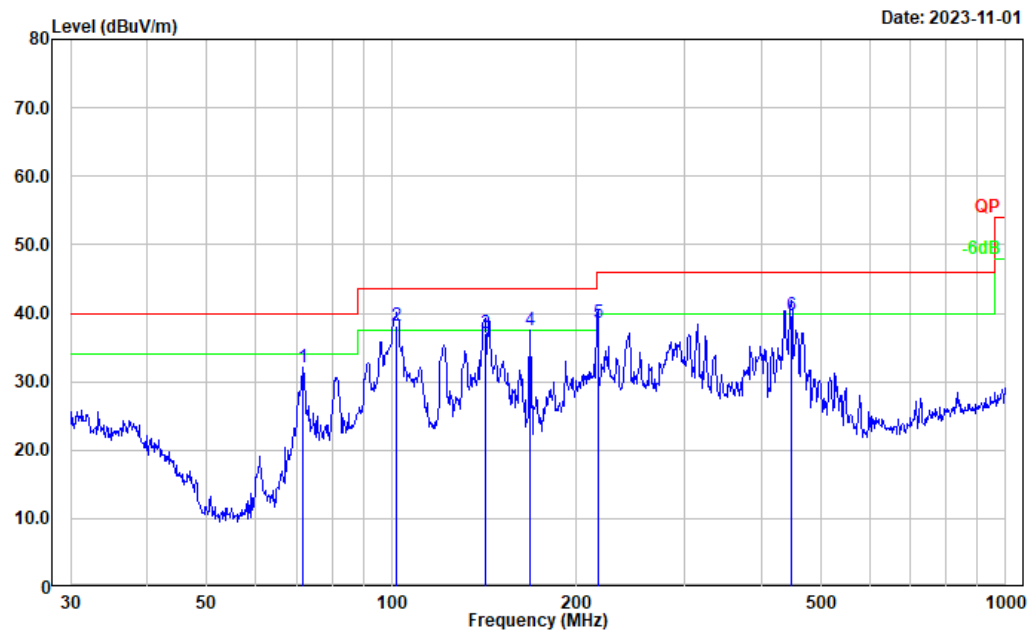
5470-5725MHz (802.11n ht20): Middle channel

Project No.: CR230848801-RF

Tester: Jeff Luo

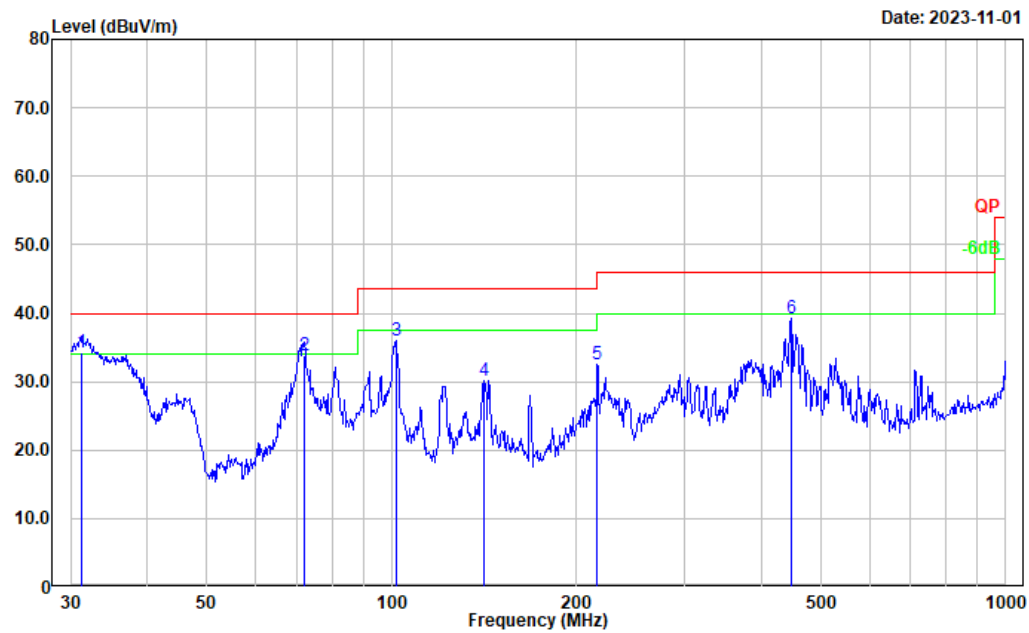
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	71.832	48.76	-16.74	32.02	40.00	7.98	Peak
2	101.644	52.21	-14.02	38.19	43.50	5.31	QP
3	141.826	48.97	-11.82	37.15	43.50	6.35	QP
4	167.824	50.11	-12.63	37.48	43.50	6.02	Peak
5	216.783	51.22	-12.72	38.50	46.00	7.50	QP
6	446.414	46.85	-7.08	39.77	46.00	6.23	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	31.289	39.11	-4.77	34.34	40.00	5.66	QP
2	72.084	50.55	-16.77	33.78	40.00	6.22	QP
3	101.644	49.99	-14.02	35.97	43.50	7.53	Peak
4	141.330	42.06	-11.83	30.23	43.50	13.27	Peak
5	216.024	45.25	-12.68	32.57	46.00	13.43	Peak
6	446.414	46.26	-7.08	39.18	46.00	6.82	Peak

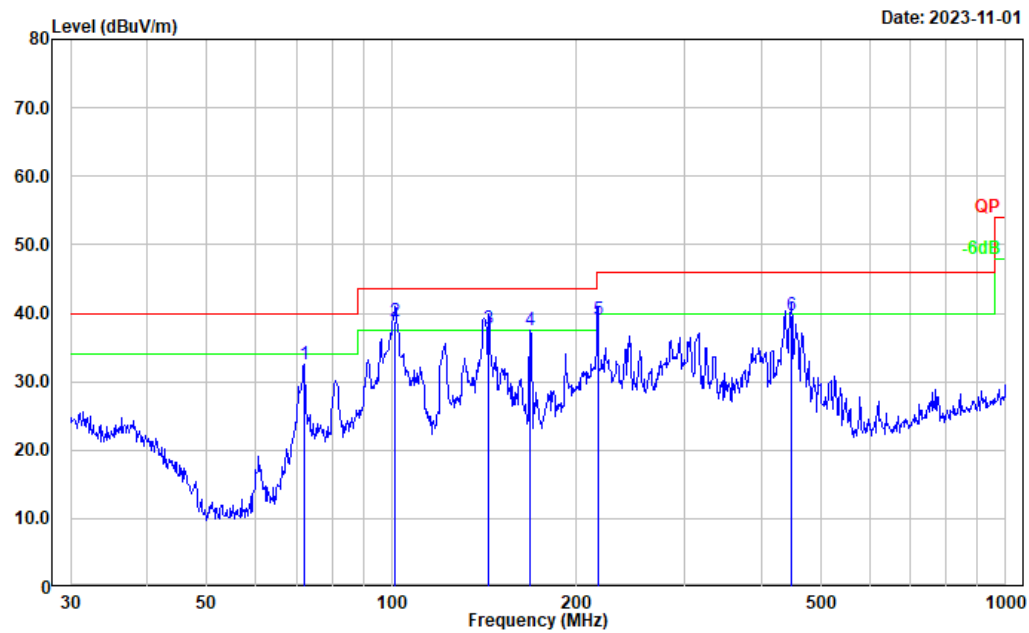
5470-5725MHz (802.11n ht20): High channel

Project No.: CR230848801-RF

Tester: Jeff Luo

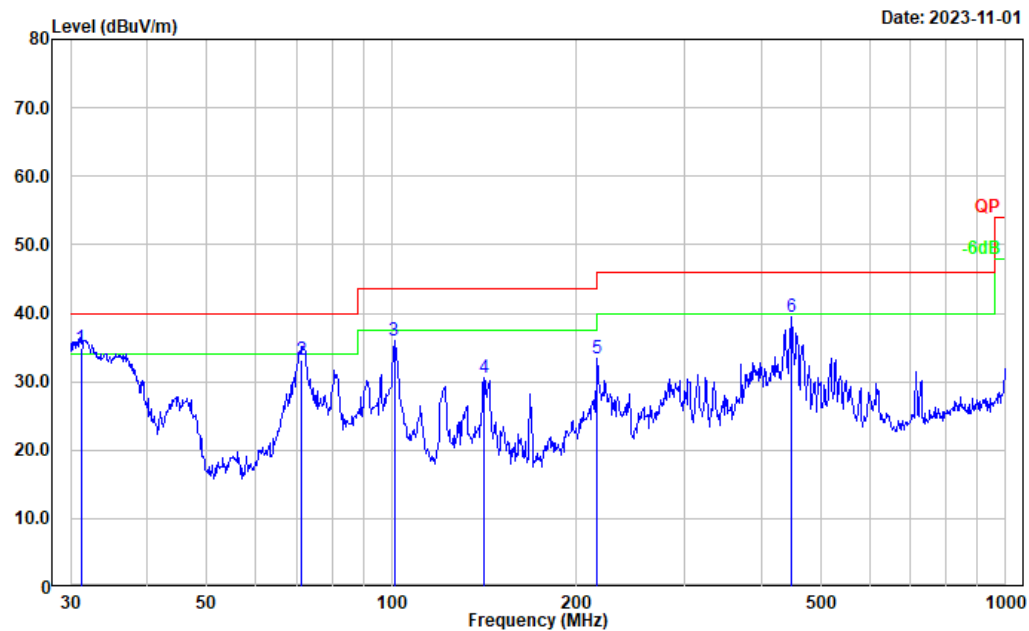
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	72.084	49.36	-16.77	32.59	40.00	7.41	Peak
2	101.289	52.97	-14.06	38.91	43.50	4.59	QP
3	143.830	49.69	-11.86	37.83	43.50	5.67	QP
4	168.414	50.16	-12.68	37.48	43.50	6.02	Peak
5	216.783	51.76	-12.72	39.04	46.00	6.96	QP
6	447.982	46.70	-7.02	39.68	46.00	6.32	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.180	39.49	-4.69	34.80	40.00	5.20	QP
2	71.330	49.80	-16.70	33.10	40.00	6.90	QP
3	100.934	50.10	-14.10	36.00	43.50	7.50	Peak
4	141.330	42.39	-11.83	30.56	43.50	12.94	Peak
5	216.024	46.07	-12.68	33.39	46.00	12.61	Peak
6	447.982	46.48	-7.02	39.46	46.00	6.54	Peak

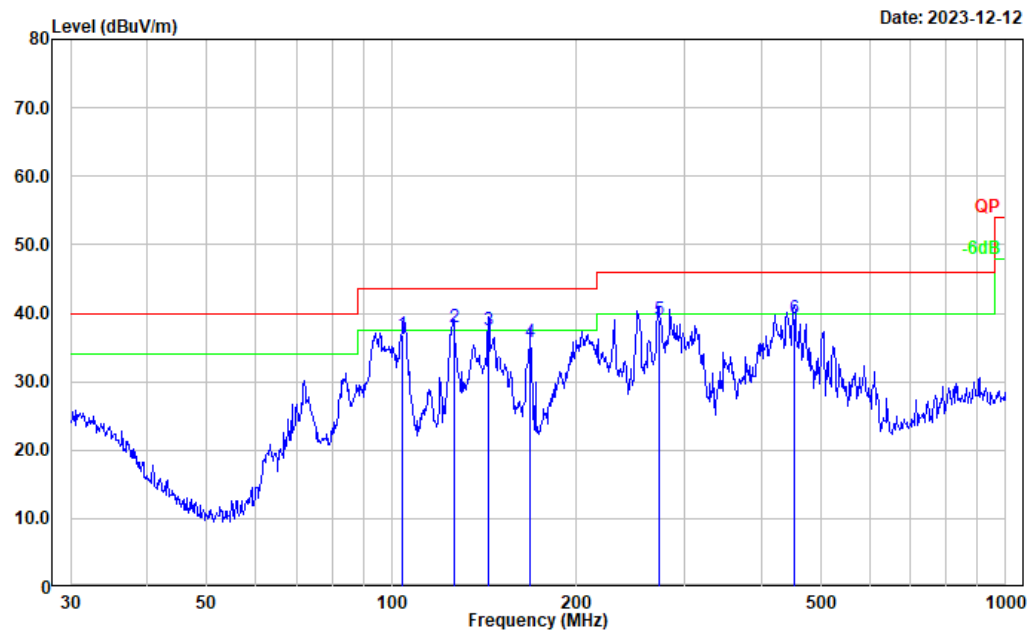
5470-5725MHz (802.11n ht20): Cross channel

Project No.: CR230848801-RF

Tester: Jeff Luo

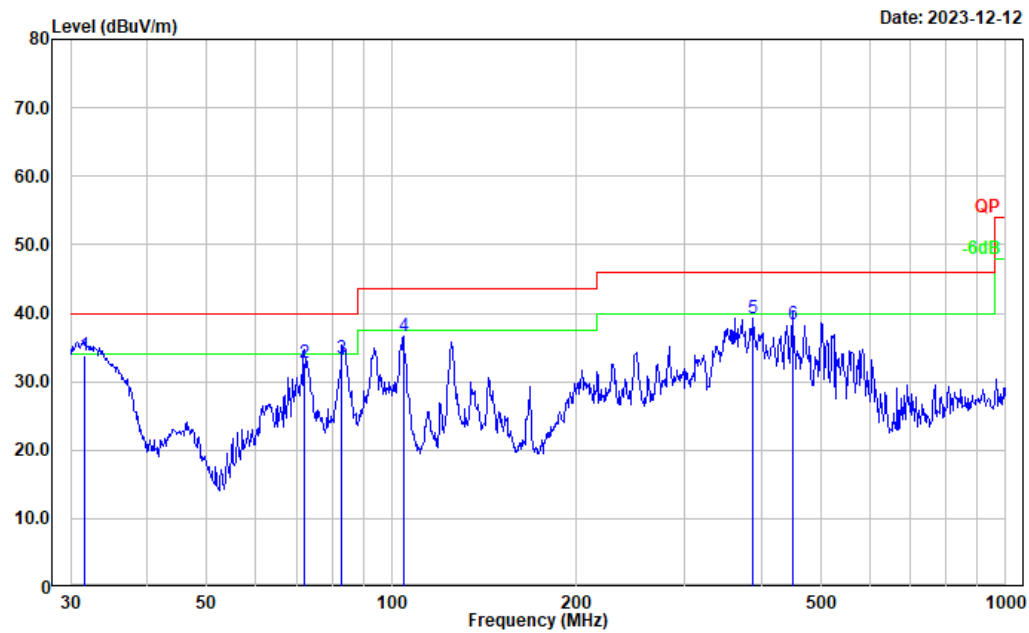
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	104.170	50.39	-13.51	36.88	43.50	6.62	QP
2	126.329	49.36	-11.32	38.04	43.50	5.46	QP
3	143.830	49.33	-11.86	37.47	43.50	6.03	QP
4	168.414	48.47	-12.68	35.79	43.50	7.71	QP
5	272.278	51.08	-12.06	39.02	46.00	6.98	QP
6	452.720	46.03	-6.85	39.18	46.00	6.82	QP

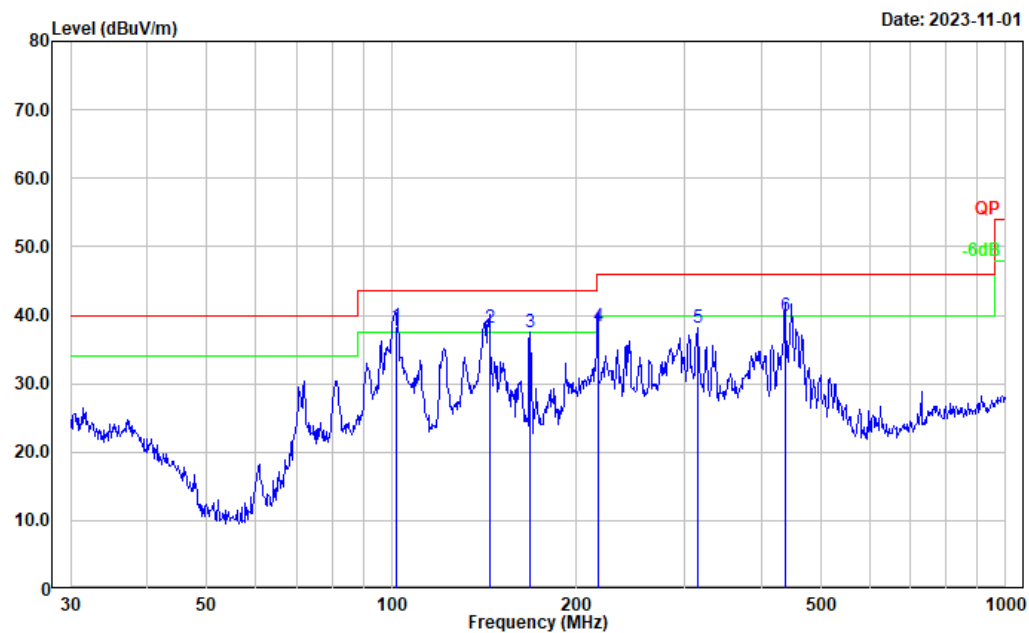
Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.620	38.89	-5.02	33.87	40.00	6.13	QP
2	72.084	49.51	-16.77	32.74	40.00	7.26	QP
3	82.938	50.53	-17.23	33.30	40.00	6.70	QP
4	104.536	50.00	-13.44	36.56	43.50	6.94	Peak
5	387.992	48.14	-8.93	39.21	46.00	6.79	Peak
6	449.556	45.27	-6.97	38.30	46.00	7.70	QP

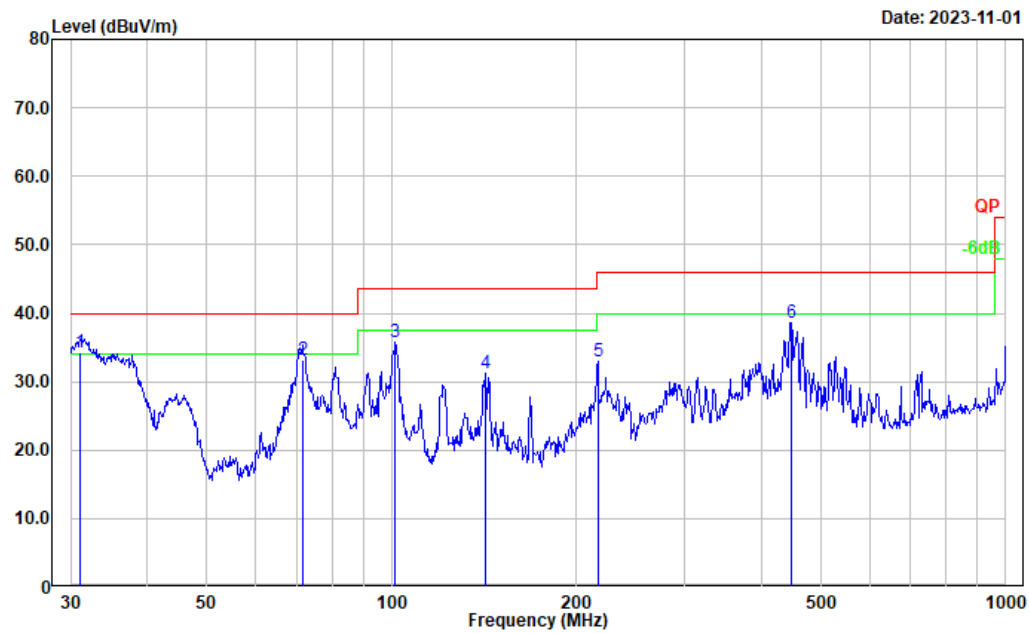
5725-5850MHz (802.11ax hew20): Low channel

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	101.644	52.36	-14.02	38.34	43.50	5.16	QP
2	144.335	49.94	-11.86	38.08	43.50	5.42	QP
3	167.824	50.13	-12.63	37.50	43.50	6.00	Peak
4	216.783	51.01	-12.72	38.29	46.00	7.71	QP
5	314.377	48.67	-10.60	38.07	46.00	7.93	Peak
6	437.120	47.23	-7.32	39.91	46.00	6.09	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.071	38.81	-4.61	34.20	40.00	5.80	QP
2	71.581	49.95	-16.72	33.23	40.00	6.77	QP
3	101.289	49.79	-14.06	35.73	43.50	7.77	Peak
4	141.826	42.96	-11.82	31.14	43.50	12.36	Peak
5	216.783	45.65	-12.72	32.93	46.00	13.07	Peak
6	446.414	45.63	-7.08	38.55	46.00	7.45	Peak

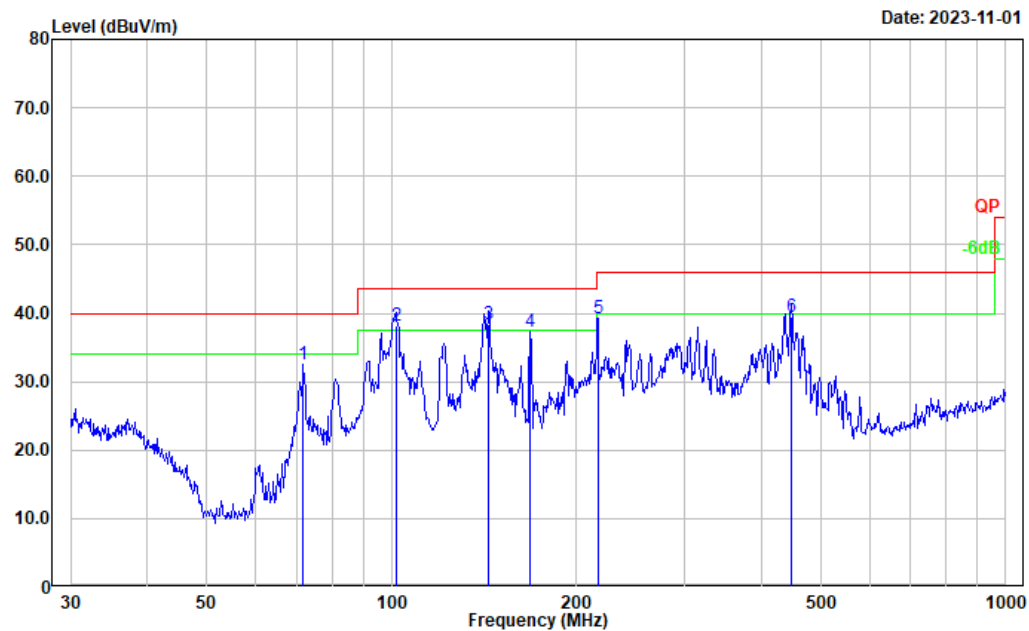
5725-5850MHz (802.11ax hew20): Middle channel

Project No.: CR230848801-RF

Tester: Jeff Luo

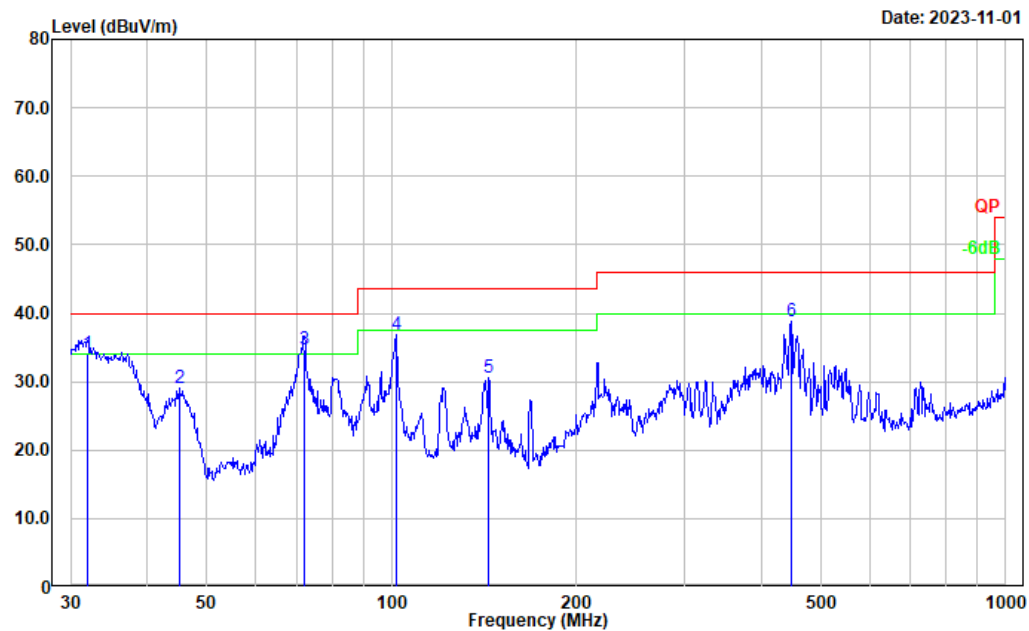
Polarization: horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	71.832	49.32	-16.74	32.58	40.00	7.42	Peak
2	101.644	52.16	-14.02	38.14	43.50	5.36	QP
3	143.830	50.25	-11.86	38.39	43.50	5.11	QP
4	167.824	49.98	-12.63	37.35	43.50	6.15	Peak
5	216.783	51.90	-12.72	39.18	46.00	6.82	Peak
6	446.414	46.53	-7.08	39.45	46.00	6.55	QP

Project No.: CR230848801-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.955	39.33	-5.27	34.06	40.00	5.94	QP
2	45.058	43.29	-14.25	29.04	40.00	10.96	Peak
3	72.084	51.51	-16.77	34.74	40.00	5.26	QP
4	102.001	50.76	-13.97	36.79	43.50	6.71	Peak
5	143.830	42.33	-11.86	30.47	43.50	13.03	Peak
6	446.414	45.87	-7.08	38.79	46.00	7.21	Peak

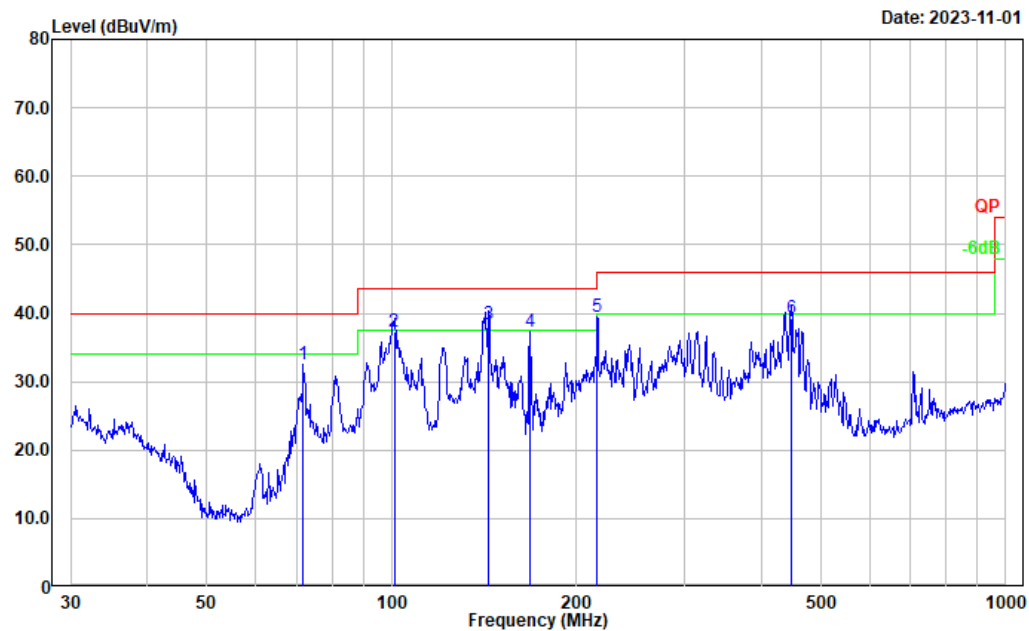
5725-5850MHz (802.11ax hew20): High channel

Project No.: CR230848801-RF

Tester: Jeff Luo

Polarization: horizontal

Note:



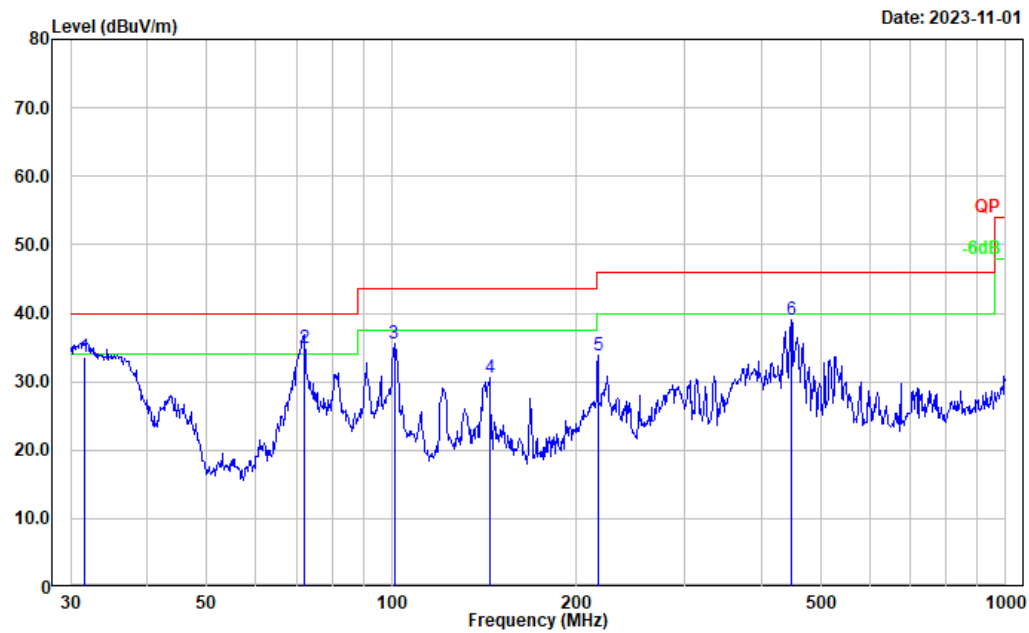
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	71.832	49.32	-16.74	32.58	40.00	7.42	Peak
2	100.934	51.32	-14.10	37.22	43.50	6.28	QP
3	143.830	50.24	-11.86	38.38	43.50	5.12	QP
4	168.414	49.96	-12.68	37.28	43.50	6.22	Peak
5	216.024	52.24	-12.68	39.56	46.00	6.44	Peak
6	446.414	46.29	-7.08	39.21	46.00	6.79	QP

Project No.: CR230848801-RF

Tester: Jeff Luo

Polarization: vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	31.620	38.63	-5.02	33.61	40.00	6.39	QP
2	72.084	51.63	-16.77	34.86	40.00	5.14	QP
3	100.934	49.75	-14.10	35.65	43.50	7.85	Peak
4	144.335	42.44	-11.86	30.58	43.50	12.92	Peak
5	216.783	46.61	-12.72	33.89	46.00	12.11	Peak
6	447.982	46.02	-7.02	39.00	46.00	7.00	Peak

2) 1GHz-40GHz:**5150-5250MHz:****802.11a:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
5180.000	72.32	PK	H	38.68	104.98	N/A	N/A
5180.000	62.21	AV	H	38.68	94.87	N/A	N/A
5180.000	73.52	PK	V	38.68	106.18	N/A	N/A
5180.000	63.44	AV	V	38.68	96.10	N/A	N/A
5150.000	38.15	PK	V	38.64	70.77	74.00	3.23
5150.000	19.52	AV	V	38.64	52.14	54.00	1.86
10360.000	38.62	PK	V	19.18	51.78	68.20	16.42
15540.000	35.77	PK	V	22.44	52.19	74.00	21.81
15540.000	22.58	AV	V	22.44	39.00	54.00	15.00
Middle Channel: 5200 MHz							
5200.000	72.45	PK	H	38.70	105.13	N/A	N/A
5200.000	62.56	AV	H	38.70	95.24	N/A	N/A
5200.000	73.46	PK	V	38.70	106.14	N/A	N/A
5200.000	63.59	AV	V	38.70	96.27	N/A	N/A
10400.000	37.66	PK	V	19.16	50.80	68.20	17.40
15600.000	37.03	PK	V	22.41	53.42	74.00	20.58
15600.000	24.55	AV	V	22.41	40.94	54.00	13.06
High Channel: 5240 MHz							
5240.000	72.41	PK	H	38.85	105.24	N/A	N/A
5240.000	62.45	AV	H	38.85	95.28	N/A	N/A
5240.000	73.13	PK	V	38.85	105.96	N/A	N/A
5240.000	63.20	AV	V	38.85	96.03	N/A	N/A
5350.000	29.88	PK	V	39.03	62.89	74.00	11.11
5350.000	16.77	AV	V	39.03	49.78	54.00	4.22
10480.000	37.57	PK	V	18.86	50.41	68.20	17.79
15720.000	38.33	PK	V	22.28	54.59	74.00	19.41
15720.000	25.47	AV	V	22.28	41.73	54.00	12.27

802.11n ht20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
5180.000	70.23	PK	H	38.68	102.89	N/A	N/A
5180.000	60.47	AV	H	38.68	93.13	N/A	N/A
5180.000	71.13	PK	V	38.68	103.79	N/A	N/A
5180.000	61.44	AV	V	38.68	94.10	N/A	N/A
5150.000	38.31	PK	V	38.64	70.93	74.00	3.07
5150.000	18.88	AV	V	38.64	51.50	54.00	2.50
10360.000	35.66	PK	V	19.18	48.82	68.20	19.38
15540.000	37.68	PK	V	22.44	54.10	74.00	19.90
15540.000	24.52	AV	V	22.44	40.94	54.00	13.06
Middle Channel: 5200 MHz							
5200.000	70.25	PK	H	38.70	102.93	N/A	N/A
5200.000	60.78	AV	H	38.70	93.46	N/A	N/A
5200.000	71.55	PK	V	38.70	104.23	N/A	N/A
5200.000	61.38	AV	V	38.70	94.06	N/A	N/A
10400.000	34.63	PK	V	19.16	47.77	68.20	20.43
15600.000	36.37	PK	V	22.41	52.76	74.00	21.24
15600.000	23.57	AV	V	22.41	39.96	54.00	14.04
High Channel: 5240 MHz							
5240.000	71.25	PK	H	38.85	104.08	N/A	N/A
5240.000	61.44	AV	H	38.85	94.27	N/A	N/A
5240.000	71.85	PK	V	38.85	104.68	N/A	N/A
5240.000	61.82	AV	V	38.85	94.65	N/A	N/A
5350.000	29.77	PK	V	39.03	62.78	74.00	11.22
5350.000	16.87	AV	V	39.03	49.88	54.00	4.12
10480.000	34.22	PK	V	18.86	47.06	68.20	21.14
15720.000	38.45	PK	V	22.28	54.71	74.00	19.29
15720.000	25.41	AV	V	22.28	41.67	54.00	12.33

802.11ax hew20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
5180.000	72.21	PK	H	38.68	104.87	N/A	N/A
5180.000	60.23	AV	H	38.68	92.89	N/A	N/A
5180.000	73.77	PK	V	38.68	106.43	N/A	N/A
5180.000	61.23	AV	V	38.68	93.89	N/A	N/A
5150.000	38.37	PK	V	38.64	70.99	74.00	3.01
5150.000	19.88	AV	V	38.64	52.50	54.00	1.50
10360.000	34.54	PK	V	19.18	47.70	68.20	20.50
15540.000	36.72	PK	V	22.44	53.14	74.00	20.86
15540.000	23.49	AV	V	22.44	39.91	54.00	14.09
Middle Channel: 5200 MHz							
5200.000	71.45	PK	H	38.70	104.13	N/A	N/A
5200.000	59.82	AV	H	38.70	92.50	N/A	N/A
5200.000	72.13	PK	V	38.70	104.81	N/A	N/A
5200.000	70.56	AV	V	38.70	103.24	N/A	N/A
10400.000	34.55	PK	V	19.16	47.69	68.20	20.51
15600.000	38.25	PK	V	22.41	54.64	74.00	19.36
15600.000	25.48	AV	V	22.41	41.87	54.00	12.13
High Channel: 5240 MHz							
5240.000	71.66	PK	H	38.85	104.49	N/A	N/A
5240.000	59.88	AV	H	38.85	92.71	N/A	N/A
5240.000	72.55	PK	V	38.85	105.38	N/A	N/A
5240.000	70.48	AV	V	38.85	103.31	N/A	N/A
5350.000	30.28	PK	V	39.03	63.29	74.00	10.71
5350.000	17.66	AV	V	39.03	50.67	54.00	3.33
10480.000	34.55	PK	V	18.86	47.39	68.20	20.81
15720.000	39.09	PK	V	22.28	55.35	74.00	18.65
15720.000	26.51	AV	V	22.28	42.77	54.00	11.23

5250-5350MHz:**802.11a:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5260.000	71.42	PK	H	38.90	104.30	N/A	N/A
5260.000	61.57	AV	H	38.90	94.45	N/A	N/A
5260.000	72.70	PK	V	38.90	105.58	N/A	N/A
5260.000	62.81	AV	V	38.90	95.69	N/A	N/A
5150.000	30.12	PK	V	38.64	62.74	74.00	11.26
5150.000	16.82	AV	V	38.64	49.44	54.00	4.56
10520.000	32.92	PK	V	18.93	45.83	68.20	22.37
15780.000	37.47	PK	V	22.26	53.71	74.00	20.29
15780.000	24.66	AV	V	22.26	40.90	54.00	13.10
Middle Channel: 5280 MHz							
5280.000	71.82	PK	H	38.91	104.71	N/A	N/A
5280.000	61.54	AV	H	38.91	94.43	N/A	N/A
5280.000	72.69	PK	V	38.91	105.58	N/A	N/A
5280.000	62.82	AV	V	38.91	95.71	N/A	N/A
10560.000	33.76	PK	V	19.20	46.94	68.20	21.26
15840.000	36.66	PK	V	22.34	52.98	74.00	21.02
15840.000	23.48	AV	V	22.34	39.80	54.00	14.20
High Channel: 5320 MHz							
5320.000	71.23	PK	H	38.97	104.18	N/A	N/A
5320.000	61.44	AV	H	38.97	94.39	N/A	N/A
5320.000	72.12	PK	V	38.97	105.07	N/A	N/A
5320.000	61.68	AV	V	38.97	94.63	N/A	N/A
5350.000	31.52	PK	V	39.03	64.53	74.00	9.47
5350.000	16.72	AV	V	39.03	49.73	54.00	4.27
10640.000	33.21	PK	V	19.50	46.69	74.00	27.31
10640.000	20.53	AV	V	19.50	34.01	54.00	19.99
15960.000	38.07	PK	V	22.22	54.27	74.00	19.73
15960.000	25.38	AV	V	22.22	41.58	54.00	12.42

802.11n ht20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5260.000	71.24	PK	H	38.90	104.12	N/A	N/A
5260.000	60.21	AV	H	38.90	93.09	N/A	N/A
5260.000	71.82	PK	V	38.90	104.70	N/A	N/A
5260.000	61.55	AV	V	38.90	94.43	N/A	N/A
5150.000	30.27	PK	V	38.64	62.89	74.00	11.11
5150.000	16.85	AV	V	38.64	49.47	54.00	4.53
10520.000	32.63	PK	V	18.93	45.54	68.20	22.66
15780.000	36.13	PK	V	22.26	52.37	74.00	21.63
15780.000	23.52	AV	V	22.26	39.76	54.00	14.24
Middle Channel: 5280 MHz							
5280.000	70.54	PK	H	38.91	103.43	N/A	N/A
5280.000	60.19	AV	H	38.91	93.08	N/A	N/A
5280.000	71.68	PK	V	38.91	104.57	N/A	N/A
5280.000	61.33	AV	V	38.91	94.22	N/A	N/A
10560.000	33.45	PK	V	19.20	46.63	68.20	21.57
15840.000	36.62	PK	V	22.34	52.94	74.00	21.06
15840.000	23.28	AV	V	22.34	39.60	54.00	14.40
High Channel: 5320 MHz							
5320.000	70.25	PK	H	38.97	103.20	N/A	N/A
5320.000	60.54	AV	H	38.97	93.49	N/A	N/A
5320.000	71.27	PK	V	38.97	104.22	N/A	N/A
5320.000	61.39	AV	V	38.97	94.34	N/A	N/A
5350.000	33.91	PK	V	39.03	66.92	74.00	7.08
5350.000	16.85	AV	V	39.03	49.86	54.00	4.14
10640.000	33.80	PK	V	19.50	47.28	74.00	26.72
10640.000	20.77	AV	V	19.50	34.25	54.00	19.75
15960.000	37.90	PK	V	22.22	54.10	74.00	19.90
15960.000	24.58	AV	V	22.22	40.78	54.00	13.22

802.11 ax hew20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
5260.000	72.56	PK	H	38.90	105.44	N/A	N/A
5260.000	60.20	AV	H	38.90	93.08	N/A	N/A
5260.000	73.10	PK	V	38.90	105.98	N/A	N/A
5260.000	61.08	AV	V	38.90	93.96	N/A	N/A
5150.000	30.22	PK	V	38.64	62.84	74.00	11.16
5150.000	16.85	AV	V	38.64	49.47	54.00	4.53
10520.000	34.29	PK	V	18.93	47.20	68.20	21.00
15780.000	37.55	PK	V	22.26	53.79	74.00	20.21
15780.000	24.61	AV	V	22.26	40.85	54.00	13.15
Middle Channel: 5280 MHz							
5280.000	72.41	PK	H	38.91	105.30	N/A	N/A
5280.000	59.89	AV	H	38.91	92.78	N/A	N/A
5280.000	73.45	PK	V	38.91	106.34	N/A	N/A
5280.000	60.19	AV	V	38.91	93.08	N/A	N/A
10560.000	34.13	PK	V	19.20	47.31	68.20	20.89
15840.000	36.92	PK	V	22.34	53.24	74.00	20.76
15840.000	23.58	AV	V	22.34	39.90	54.00	14.10
High Channel: 5320 MHz							
5320.000	72.14	PK	H	38.97	105.09	N/A	N/A
5320.000	60.37	AV	H	38.97	93.32	N/A	N/A
5320.000	73.94	PK	V	38.97	106.89	N/A	N/A
5320.000	60.73	AV	V	38.97	93.68	N/A	N/A
5350.000	35.24	PK	V	39.03	68.25	74.00	5.75
5350.000	17.02	AV	V	39.03	50.03	54.00	3.97
10640.000	33.83	PK	V	19.50	47.31	74.00	26.69
10640.000	20.19	AV	V	19.50	33.67	54.00	20.33
15960.000	37.90	PK	V	22.22	54.10	74.00	19.90
15960.000	24.63	AV	V	22.22	40.83	54.00	13.17

5470-5725MHz**802.11a:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
5500.000	70.89	PK	H	39.32	104.19	N/A	N/A
5500.000	60.58	AV	H	39.32	93.88	N/A	N/A
5500.000	71.65	PK	V	39.32	104.95	N/A	N/A
5500.000	61.39	AV	V	39.32	94.69	N/A	N/A
5470.000	29.87	PK	V	39.27	63.12	68.20	5.08
11000.000	33.61	PK	V	19.83	47.42	74.00	26.58
11000.000	20.18	AV	V	19.83	33.99	54.00	20.01
16500.000	35.89	PK	V	22.73	52.60	68.20	15.60
Middle Channel: 5580 MHz							
5580.000	70.58	PK	H	39.43	103.99	N/A	N/A
5580.000	61.08	AV	H	39.43	94.49	N/A	N/A
5580.000	72.12	PK	V	39.43	105.53	N/A	N/A
5580.000	62.33	AV	V	39.43	95.74	N/A	N/A
11160.000	35.15	PK	V	19.97	49.10	74.00	24.90
11160.000	22.49	AV	V	19.97	36.44	54.00	17.56
16740.000	36.34	PK	V	23.68	54.00	68.20	14.20
High Channel: 5700 MHz							
5700.000	71.38	PK	H	39.51	104.87	N/A	N/A
5700.000	61.44	AV	H	39.51	94.93	N/A	N/A
5700.000	72.20	PK	V	39.51	105.69	N/A	N/A
5700.000	62.51	AV	V	39.51	96.00	N/A	N/A
5725.000	33.27	PK	V	39.48	66.73	68.20	1.47
11400.000	33.62	PK	V	20.93	48.53	74.00	25.47
11400.000	20.37	AV	V	20.93	35.28	54.00	32.92
17100.000	34.46	PK	V	26.19	54.63	68.20	14.23
Cross Channel: 5720 MHz							
5720.000	69.44	PK	H	39.49	102.91	N/A	N/A
5720.000	60.34	AV	H	39.49	93.81	N/A	N/A
5720.000	71.53	PK	V	39.49	105.00	N/A	N/A
5720.000	61.39	AV	V	39.49	94.86	N/A	N/A
11440.000	34.55	PK	V	20.81	49.34	74.00	24.66
11440.000	22.03	AV	V	20.81	36.82	54.00	17.18
17160.000	33.59	PK	V	26.41	53.98	68.20	14.22

802.11n ht20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
5500.000	69.38	PK	H	39.32	102.68	N/A	N/A
5500.000	59.77	AV	H	39.32	93.07	N/A	N/A
5500.000	70.69	PK	V	39.32	103.99	N/A	N/A
5500.000	60.38	AV	V	39.32	93.68	N/A	N/A
5470.000	30.21	PK	V	39.27	63.46	68.20	4.74
11000.000	33.05	PK	V	19.83	46.86	74.00	27.14
11000.000	20.52	AV	V	19.83	34.33	54.00	19.67
16500.000	35.32	PK	V	22.73	52.03	68.20	16.17
Middle Channel: 5580 MHz							
5580.000	70.22	PK	H	39.43	103.63	N/A	N/A
5580.000	60.32	AV	H	39.43	93.73	N/A	N/A
5580.000	71.12	PK	V	39.43	104.53	N/A	N/A
5580.000	61.85	AV	V	39.43	95.26	N/A	N/A
11160.000	35.17	PK	V	19.97	49.12	74.00	24.88
11160.000	22.28	AV	V	19.97	36.23	54.00	17.77
16740.000	35.22	PK	V	23.68	52.88	68.20	15.32
High Channel: 5700 MHz							
5700.000	70.65	PK	H	39.51	104.14	N/A	N/A
5700.000	60.44	AV	H	39.51	93.93	N/A	N/A
5700.000	71.62	PK	V	39.51	105.11	N/A	N/A
5700.000	61.76	AV	V	39.51	95.25	N/A	N/A
5725.000	33.76	PK	V	39.48	67.22	68.20	0.98
11400.000	36.52	PK	V	20.93	51.43	74.00	22.57
11400.000	23.46	AV	V	20.93	38.37	54.00	15.63
17100.000	33.98	PK	V	26.19	54.15	68.20	14.05
Cross Channel: 5720 MHz							
5720.000	69.33	PK	H	39.49	102.80	N/A	N/A
5720.000	59.78	AV	H	39.49	93.25	N/A	N/A
5720.000	70.49	PK	V	39.49	103.96	N/A	N/A
5720.000	60.27	AV	V	39.49	93.74	N/A	N/A
11440.000	34.75	PK	V	20.81	49.54	74.00	24.46
11440.000	22.01	AV	V	20.81	36.80	54.00	17.20
17160.000	33.41	PK	V	26.41	53.80	68.20	14.40

802.11 ax hew20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
5500.000	71.45	PK	H	39.32	104.75	N/A	N/A
5500.000	58.69	AV	H	39.32	91.99	N/A	N/A
5500.000	72.54	PK	V	39.32	105.84	N/A	N/A
5500.000	59.87	AV	V	39.32	93.17	N/A	N/A
5470.000	30.21	PK	V	39.27	63.46	68.20	4.74
11000.000	33.61	PK	V	19.83	47.42	74.00	26.58
11000.000	20.45	AV	V	19.83	34.26	54.00	19.74
16500.000	34.69	PK	V	22.73	51.40	68.20	16.80
Middle Channel: 5580 MHz							
5580.000	71.41	PK	H	39.43	104.82	N/A	N/A
5580.000	58.22	AV	H	39.43	91.63	N/A	N/A
5580.000	72.31	PK	V	39.43	105.72	N/A	N/A
5580.000	59.38	AV	V	39.43	92.79	N/A	N/A
11160.000	34.19	PK	V	19.97	48.14	74.00	25.86
11160.000	21.53	AV	V	19.97	35.48	54.00	18.52
16740.000	36.34	PK	V	23.68	54.00	68.20	14.20
High Channel: 5700 MHz							
5700.000	72.23	PK	H	39.51	105.72	N/A	N/A
5700.000	59.71	AV	H	39.51	93.20	N/A	N/A
5700.000	73.18	PK	V	39.51	106.67	N/A	N/A
5700.000	60.13	AV	V	39.51	93.62	N/A	N/A
5725.000	33.72	PK	V	39.48	67.18	68.20	1.02
11400.000	33.28	PK	V	20.93	48.19	74.00	25.81
11400.000	20.53	AV	V	20.93	35.44	54.00	18.56
17100.000	34.25	PK	V	26.19	54.42	68.20	13.78
High Channel: 5720 MHz							
5720.000	70.41	PK	H	39.49	103.88	N/A	N/A
5720.000	58.84	AV	H	39.49	92.31	N/A	N/A
5720.000	72.69	PK	V	39.49	106.16	N/A	N/A
5720.000	60.12	AV	V	39.49	93.59	N/A	N/A
11440.000	35.69	PK	V	20.81	50.48	74.00	23.52
11440.000	23.44	AV	V	20.81	38.23	54.00	15.77
17160.000	33.64	PK	V	26.41	54.03	68.20	14.17

5725-5850MHz**802.11a:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
5745.000	71.15	PK	H	39.46	104.59	N/A	N/A
5745.000	61.35	AV	H	39.46	94.79	N/A	N/A
5745.000	72.73	PK	V	39.46	106.17	N/A	N/A
5745.000	62.29	AV	V	39.46	95.73	N/A	N/A
11490.000	34.83	PK	V	20.67	49.48	74.00	24.52
11490.000	21.41	AV	V	20.67	36.06	54.00	17.94
17235.000	34.28	PK	V	26.76	55.02	68.20	13.18
Middle Channel: 5785 MHz							
5785.000	70.23	PK	H	39.44	103.65	N/A	N/A
5785.000	60.49	AV	H	39.44	93.91	N/A	N/A
5785.000	71.48	PK	V	39.44	104.90	N/A	N/A
5785.000	61.53	AV	V	39.44	94.95	N/A	N/A
11570.000	34.28	PK	V	20.83	49.09	74.00	24.91
11570.000	21.30	AV	V	20.83	36.11	54.00	17.89
17355.000	34.72	PK	V	27.74	56.44	68.20	11.76
High Channel: 5825 MHz							
5825.000	69.52	PK	H	39.46	102.96	N/A	N/A
5825.000	59.83	AV	H	39.46	93.27	N/A	N/A
5825.000	70.55	PK	V	39.46	103.99	N/A	N/A
5825.000	60.78	AV	V	39.46	94.22	N/A	N/A
11650.000	35.88	PK	V	21.07	50.93	74.00	23.07
11650.000	22.12	AV	V	21.07	37.17	54.00	16.83
17475.000	34.23	PK	V	28.61	56.82	68.20	11.38

802.11n ht20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
5745.000	71.58	PK	H	39.46	105.02	N/A	N/A
5745.000	61.43	AV	H	39.46	94.87	N/A	N/A
5745.000	72.79	PK	V	39.46	106.23	N/A	N/A
5745.000	62.20	AV	V	39.46	95.64	N/A	N/A
11490.000	34.86	PK	V	20.67	49.51	74.00	24.49
11490.000	21.20	AV	V	20.67	35.85	54.00	18.15
17235.000	35.21	PK	V	26.76	55.95	68.20	12.25
Middle Channel: 5785 MHz							
5785.000	70.56	PK	H	39.44	103.98	N/A	N/A
5785.000	60.63	AV	H	39.44	94.05	N/A	N/A
5785.000	71.48	PK	V	39.44	104.90	N/A	N/A
5785.000	61.49	AV	V	39.44	94.91	N/A	N/A
11570.000	33.86	PK	V	20.83	48.67	74.00	25.33
11570.000	20.47	AV	V	20.83	35.28	54.00	18.72
17355.000	33.85	PK	V	27.74	55.57	68.20	12.63
High Channel: 5825 MHz							
5825.000	69.86	PK	H	39.46	103.30	N/A	N/A
5825.000	59.77	AV	H	39.46	93.21	N/A	N/A
5825.000	70.41	PK	V	39.46	103.85	N/A	N/A
5825.000	60.33	AV	V	39.46	93.77	N/A	N/A
11650.000	35.47	PK	V	21.07	50.52	74.00	23.48
11650.000	22.42	AV	V	21.07	37.47	54.00	16.53
17475.000	33.79	PK	V	28.61	56.38	68.20	11.82

802.11 ax hew20:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
5745.000	73.20	PK	H	39.46	106.64	N/A	N/A
5745.000	60.23	AV	H	39.46	93.67	N/A	N/A
5745.000	74.12	PK	V	39.46	107.56	N/A	N/A
5745.000	62.04	AV	V	39.46	95.48	N/A	N/A
11490.000	33.27	PK	V	20.67	47.92	74.00	26.08
11490.000	20.45	AV	V	20.67	35.10	54.00	18.90
17235.000	34.56	PK	V	26.76	55.30	68.20	12.90
Middle Channel: 5785 MHz							
5785.000	72.14	PK	H	39.44	105.56	N/A	N/A
5785.000	59.37	AV	H	39.44	92.79	N/A	N/A
5785.000	73.65	PK	V	39.44	107.07	N/A	N/A
5785.000	60.45	AV	V	39.44	93.87	N/A	N/A
11570.000	33.31	PK	V	20.83	48.12	74.00	25.88
11570.000	20.69	AV	V	20.83	35.50	54.00	18.50
17355.000	33.43	PK	V	27.74	55.15	68.20	13.05
High Channel: 5825 MHz							
5825.000	71.45	PK	H	39.46	104.89	N/A	N/A
5825.000	58.77	AV	H	39.46	92.21	N/A	N/A
5825.000	72.56	PK	V	39.46	106.00	N/A	N/A
5825.000	59.44	AV	V	39.46	92.88	N/A	N/A
11650.000	33.38	PK	V	21.07	48.43	74.00	25.57
11650.000	20.39	AV	V	21.07	35.44	54.00	18.56
17475.000	33.39	PK	V	28.61	55.98	68.20	12.22

Note:

Result = Reading + Factor- Distance extrapolation Factor

Distance extrapolation Factor = $20 \log (\text{specific distance [3m]}/\text{test distance [1.5m]})$ dB= 6.02 dB

Worst Test plots for Band Edge Measurements (Radiated)

802.11a

Test Channel:

5620-5775MHz

Ant. Polar. :

Horizontal

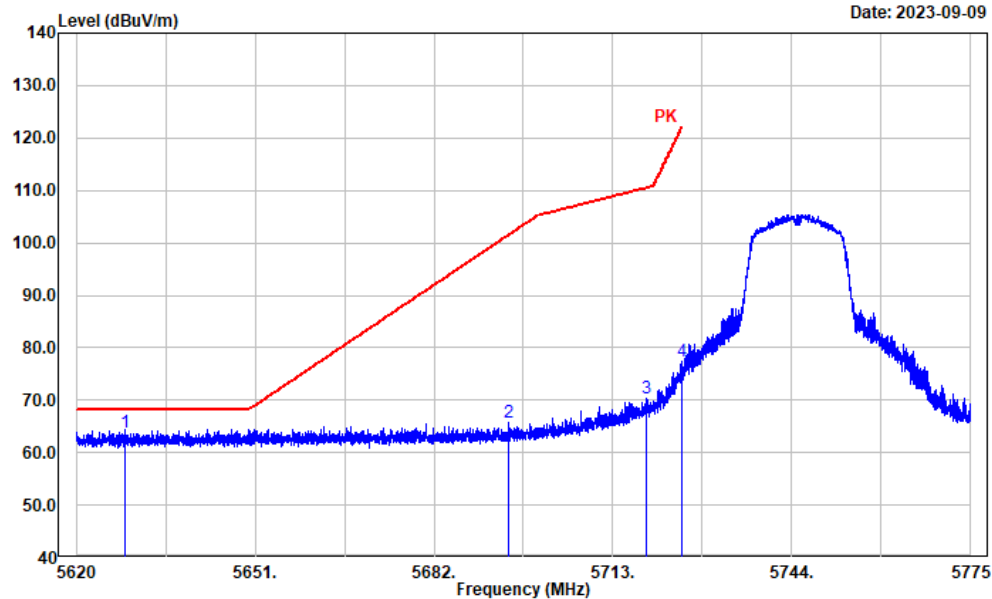
Project No.: CR230848801-RF

Tester: Tao Zhu

Polarization: Horizontal

Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5628.589	30.53	33.45	63.98	68.20	4.22	Peak
2	5694.911	32.27	33.51	65.78	101.45	35.67	Peak
3	5718.848	36.88	33.49	70.37	110.48	40.11	Peak
4	5724.832	44.02	33.48	77.50	121.82	44.32	Peak

802.11a

Test Channel:

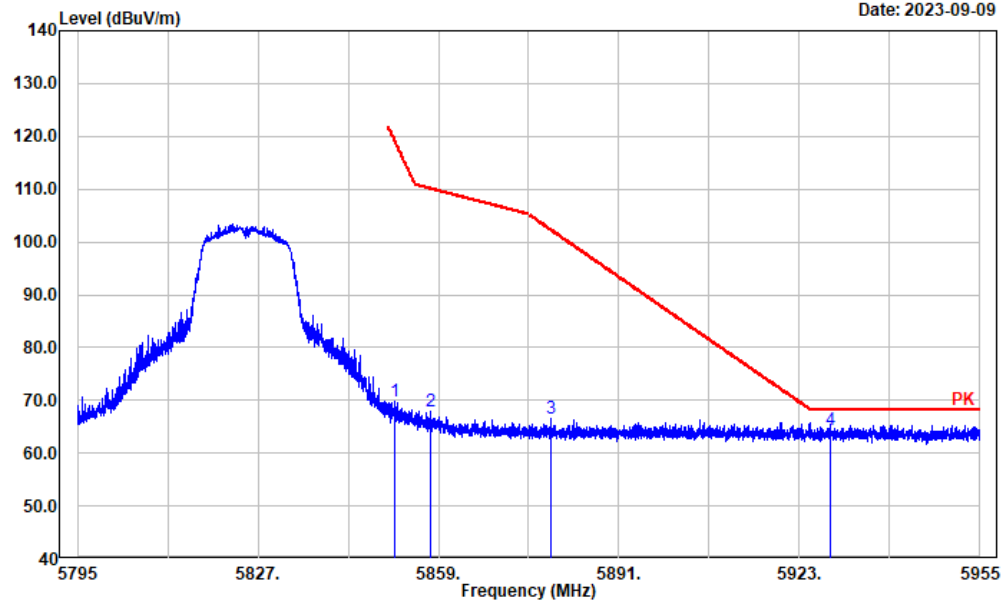
5795-5955MHz

Ant. Polar. :

Horizontal

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Horizontal
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.299	36.20	33.50	69.70	119.24	49.54	Peak
2	5857.541	34.40	33.52	67.92	110.09	42.17	Peak
3	5879.017	32.93	33.62	66.55	102.22	35.67	Peak
4	5928.371	30.65	33.67	64.32	68.20	3.88	Peak

802.11a

Test Channel:

5620-5775MHz

Ant. Polar. :

Vertical

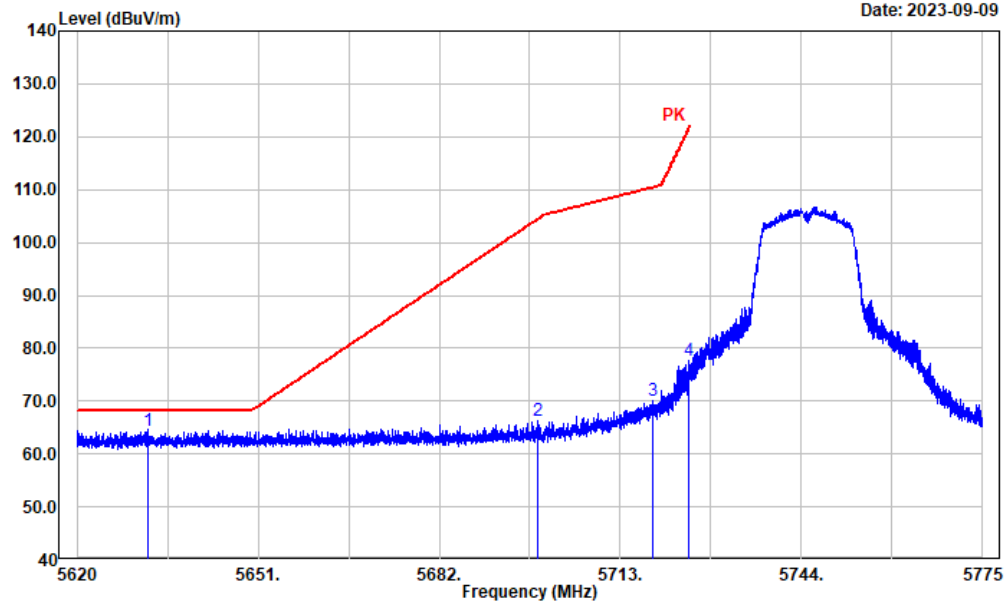
Project No.: CR230848801-RF

Tester: Tao Zhu

Polarization: Vertical

Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5632.216	30.88	33.46	64.34	68.20	3.86	Peak
2	5698.942	32.89	33.51	66.40	104.42	38.02	Peak
3	5718.631	36.66	33.49	70.15	110.42	40.27	Peak
4	5724.708	44.24	33.48	77.72	121.53	43.81	Peak

802.11a

Test Channel:

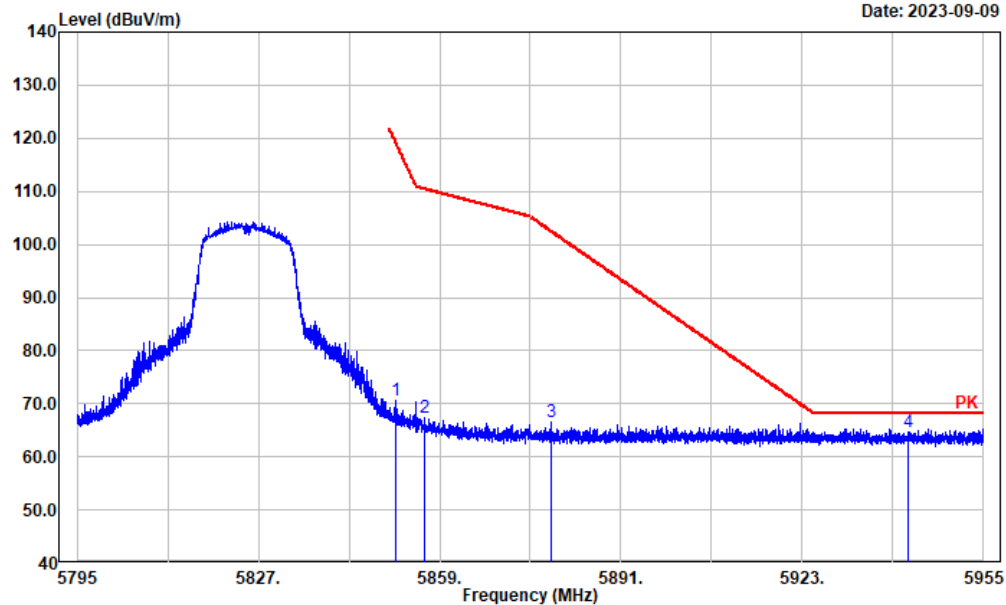
5795-5955MHz

Ant. Polar. :

Vertical

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Vertical
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.139	37.13	33.49	70.62	119.60	48.98	Peak
2	5856.260	33.78	33.52	67.30	110.45	43.15	Peak
3	5878.601	32.97	33.61	66.58	102.52	35.94	Peak
4	5941.621	30.87	33.66	64.53	68.20	3.67	Peak

802.11n ht20

Test Channel:

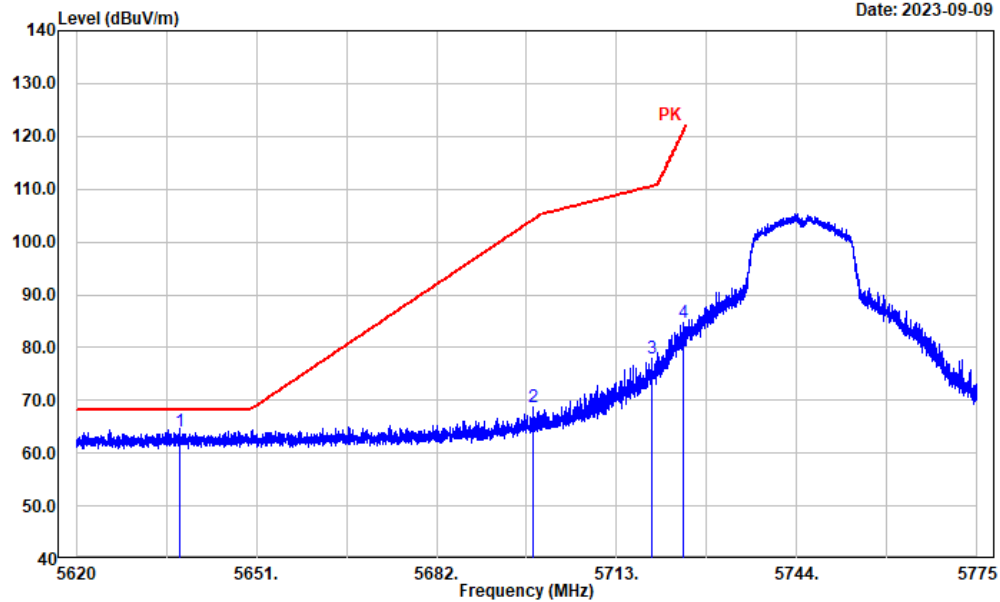
5620-5775MHz

Ant. Polar. :

Horizontal

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Horizontal
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5637.859	30.55	33.48	64.03	68.20	4.17	Peak
2	5698.632	35.22	33.51	68.73	104.19	35.46	Peak
3	5719.065	44.32	33.49	77.81	110.54	32.73	Peak
4	5724.429	51.10	33.48	84.58	120.90	36.32	Peak

802.11 n ht20

Test Channel:

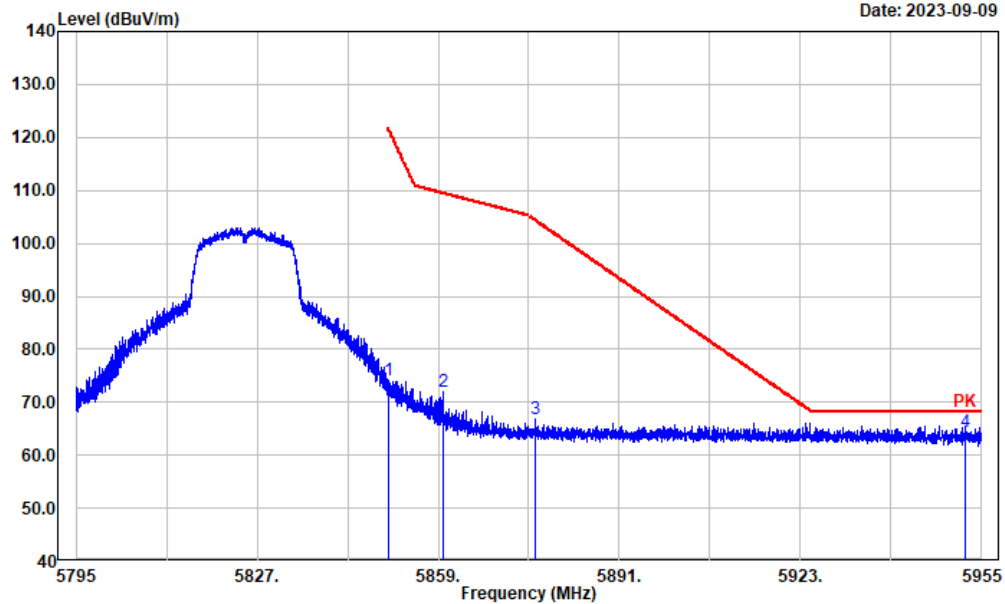
5795-5955MHz

Ant. Polar. :

Horizontal

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Horizontal
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5850.339	40.62	33.49	74.11	121.43	47.32	Peak
2	5859.973	38.41	33.53	71.94	109.41	37.47	Peak
3	5876.136	33.31	33.60	66.91	104.36	37.45	Peak
4	5952.087	30.78	33.64	64.42	68.20	3.78	Peak

802.11 n ht20

Test Channel:

5620-5775MHz

Ant. Polar. :

Vertical

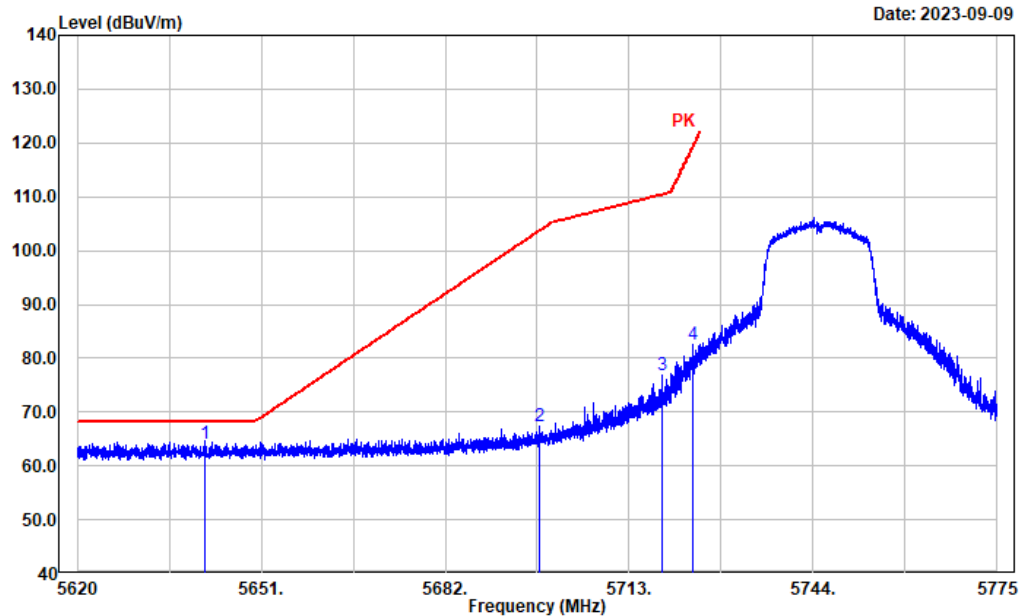
Project No.: CR230848801-RF

Tester: Tao Zhu

Polarization: Vertical

Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5641.518	30.77	33.48	64.25	68.20	3.95	Peak
2	5697.980	33.77	33.51	67.28	103.71	36.43	Peak
3	5718.631	43.42	33.49	76.91	110.42	33.51	Peak
4	5723.623	49.00	33.48	82.48	119.06	36.58	Peak

802.11 n ht20

Test Channel:

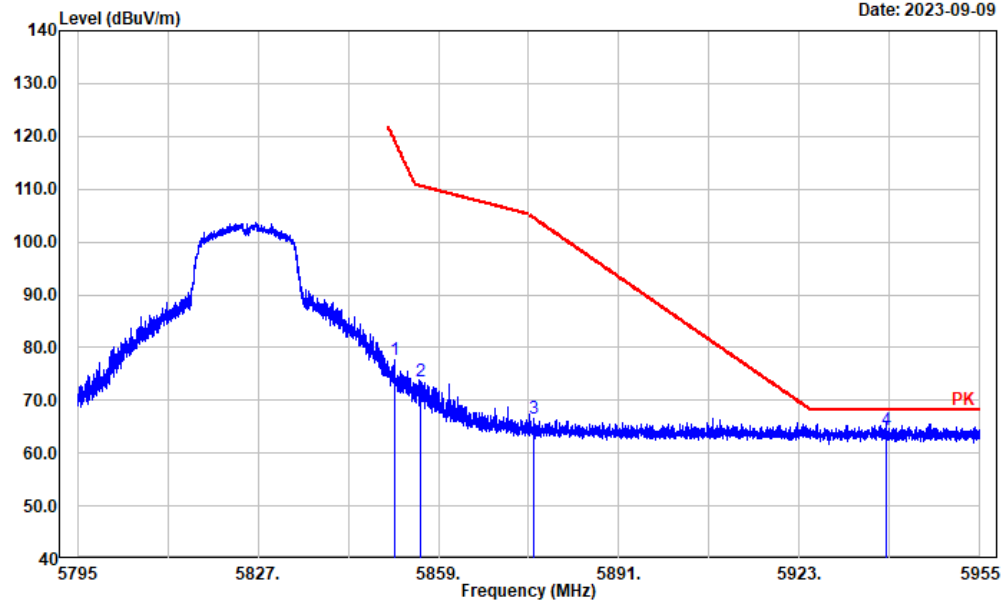
5795-5955MHz

Ant. Polar. :

Vertical

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Vertical
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.139	44.06	33.49	77.55	119.60	42.05	Peak
2	5855.812	40.05	33.51	73.56	110.57	37.01	Peak
3	5875.912	33.00	33.60	66.60	104.52	37.92	Peak
4	5938.421	30.69	33.66	64.35	68.20	3.85	Peak

802.11ax hew20

Test Channel:

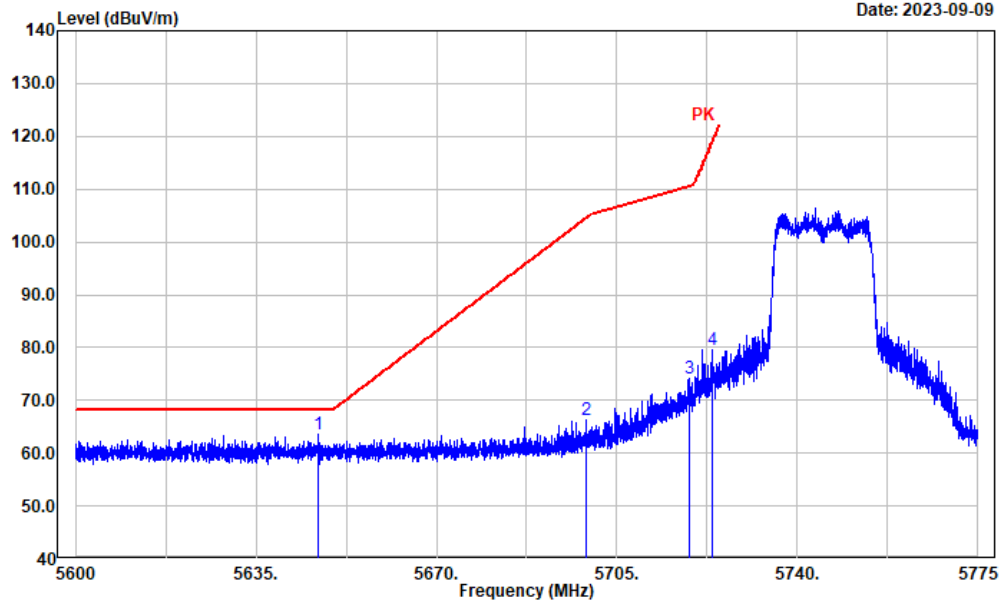
5600-5775MHz

Ant. Polar. :

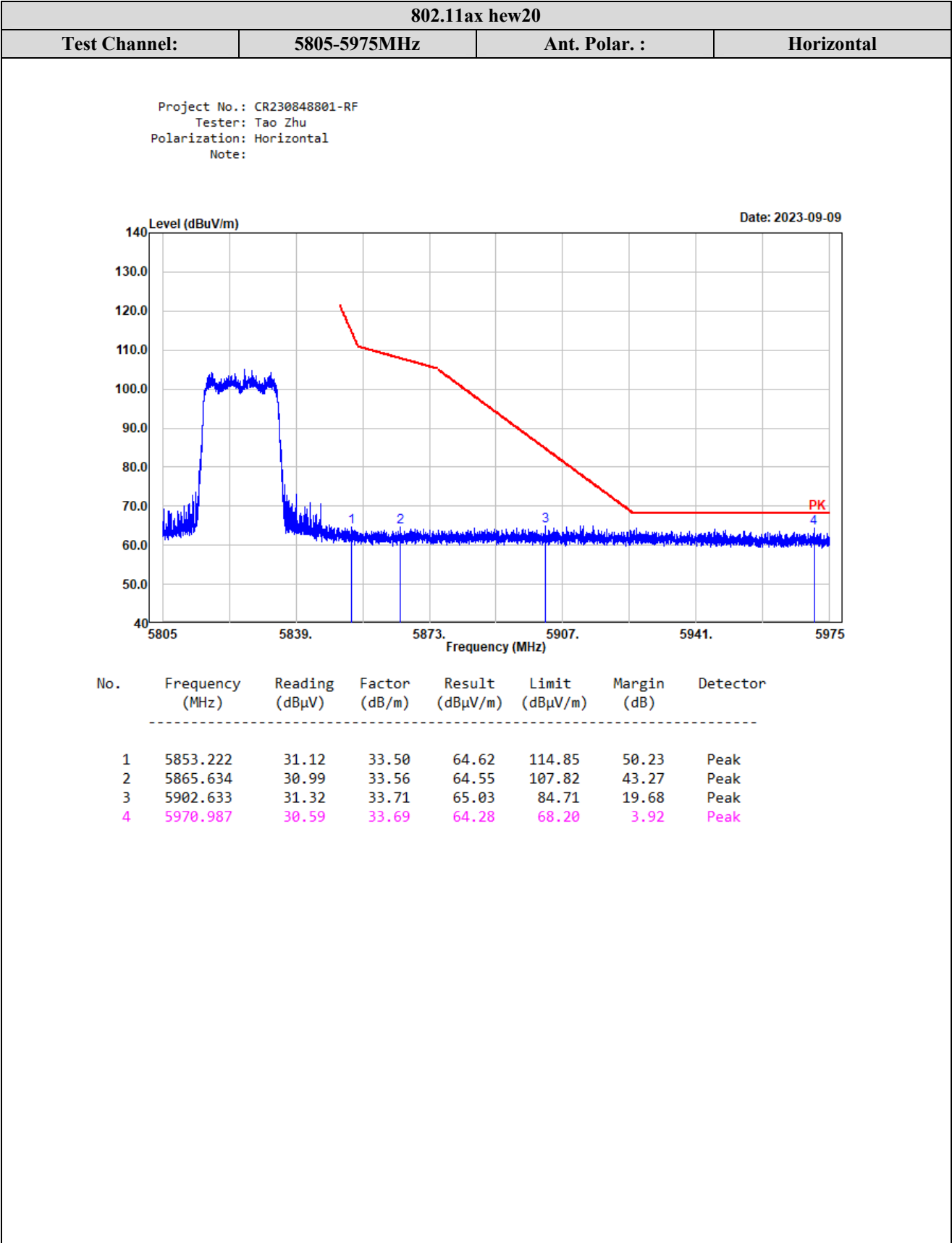
Horizontal

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: Horizontal
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5646.979	29.97	33.49	63.46	68.20	4.74	Peak
2	5699.070	32.68	33.51	66.19	104.51	38.32	Peak
3	5719.094	40.59	33.49	74.08	110.55	36.47	Peak
4	5723.400	45.99	33.48	79.47	118.55	39.08	Peak



Page 76 of 143

802.11ax hew20

Test Channel:

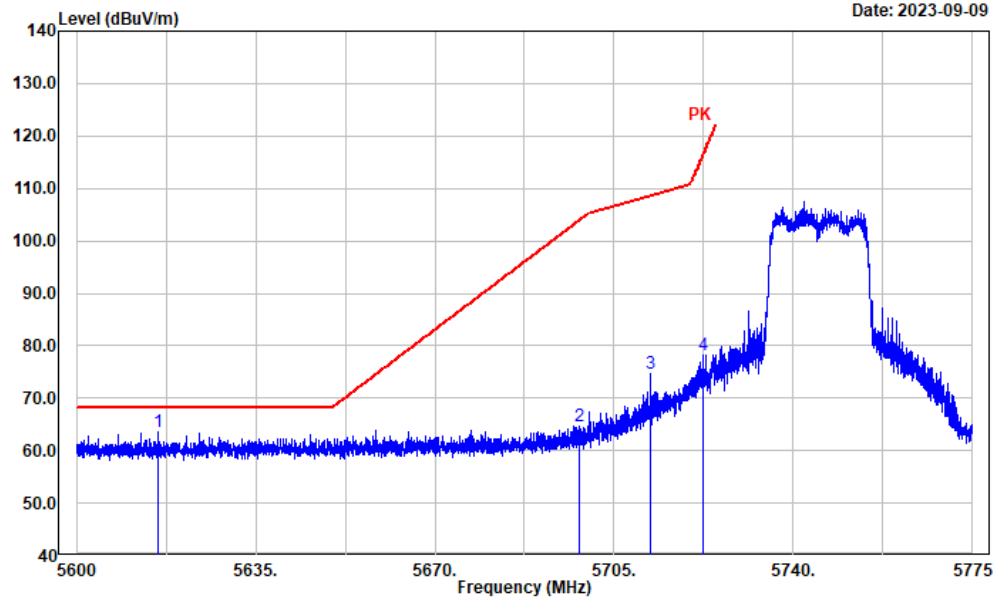
5600-5775MHz

Ant. Polar. :

Vertical

Project No.: CR230848801-RF
Tester: Tao Zhu
Polarization: vertical
Note:

Date: 2023-09-09



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5616.068	30.20	33.44	63.64	68.20	4.56	Peak
2	5698.195	31.15	33.51	64.66	103.87	39.21	Peak
3	5712.163	41.24	33.49	74.73	108.61	33.88	Peak
4	5722.314	44.83	33.48	78.31	116.08	37.77	Peak

802.11ax hew20

Test Channel:

5805-5975MHz

Ant. Polar. :

Vertical

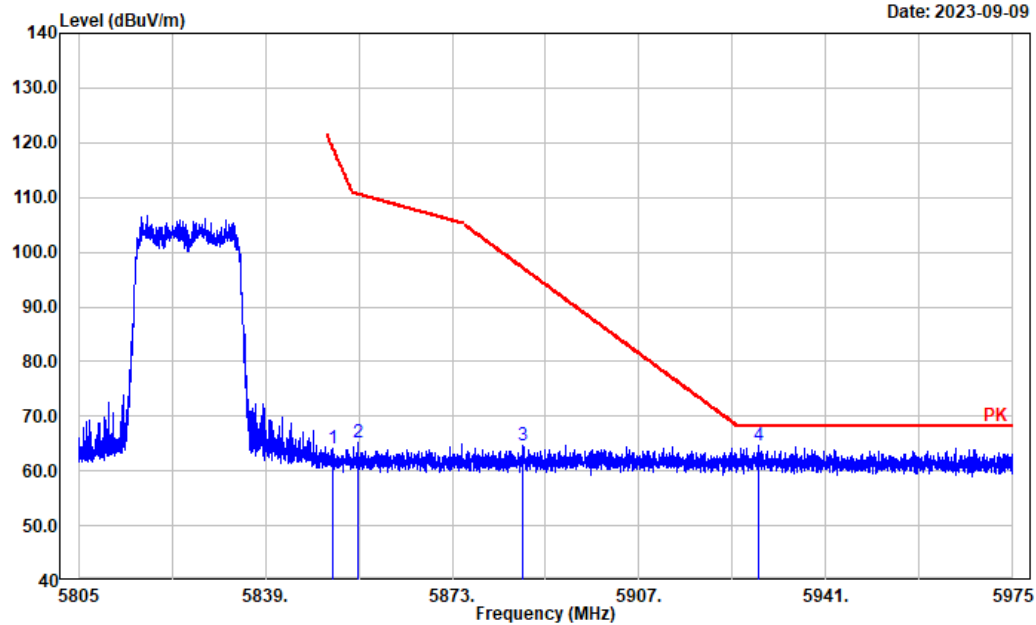
Project No.: CR230848801-RF

Tester: Tao Zhu

Polarization: vertical

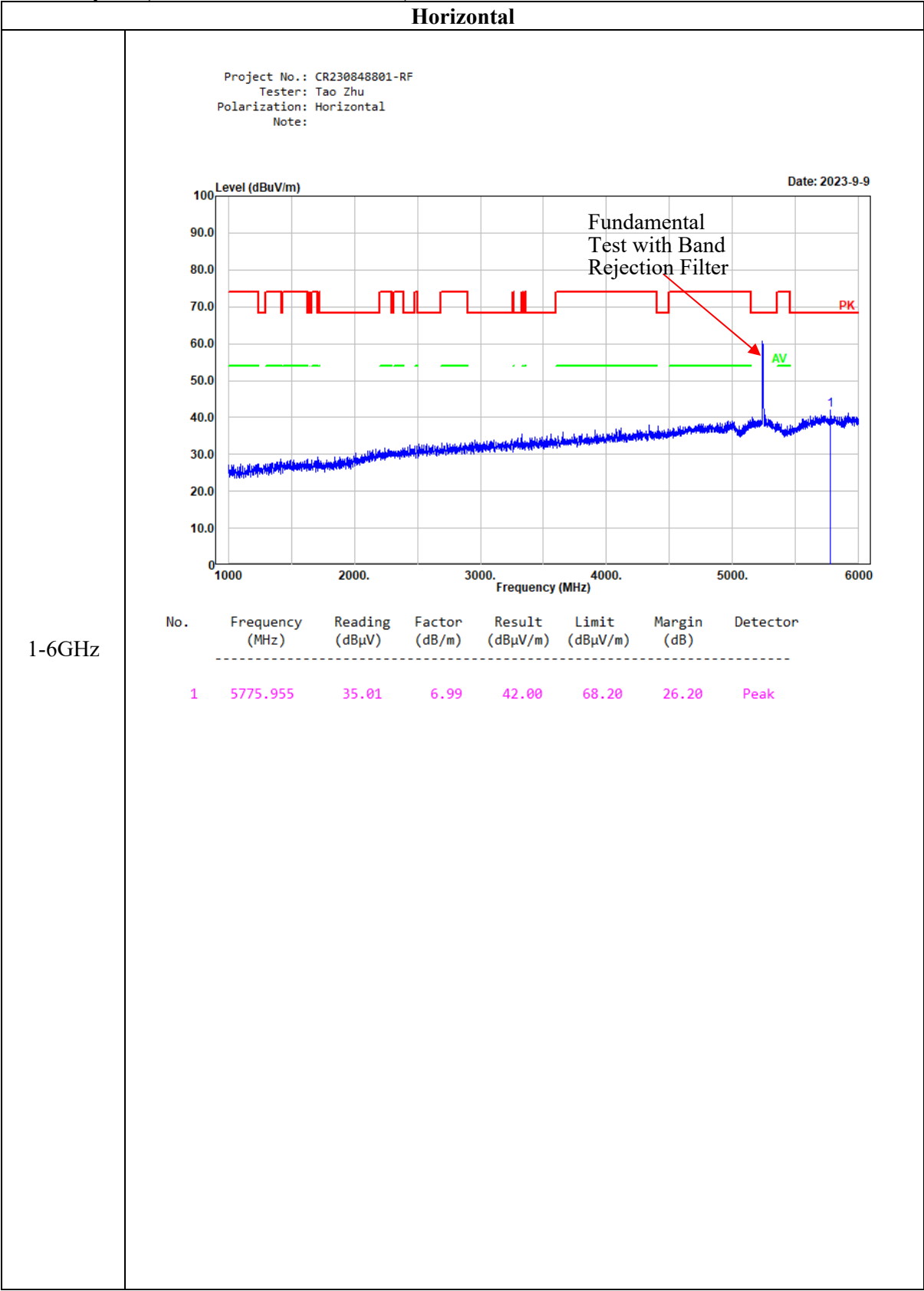
Note:

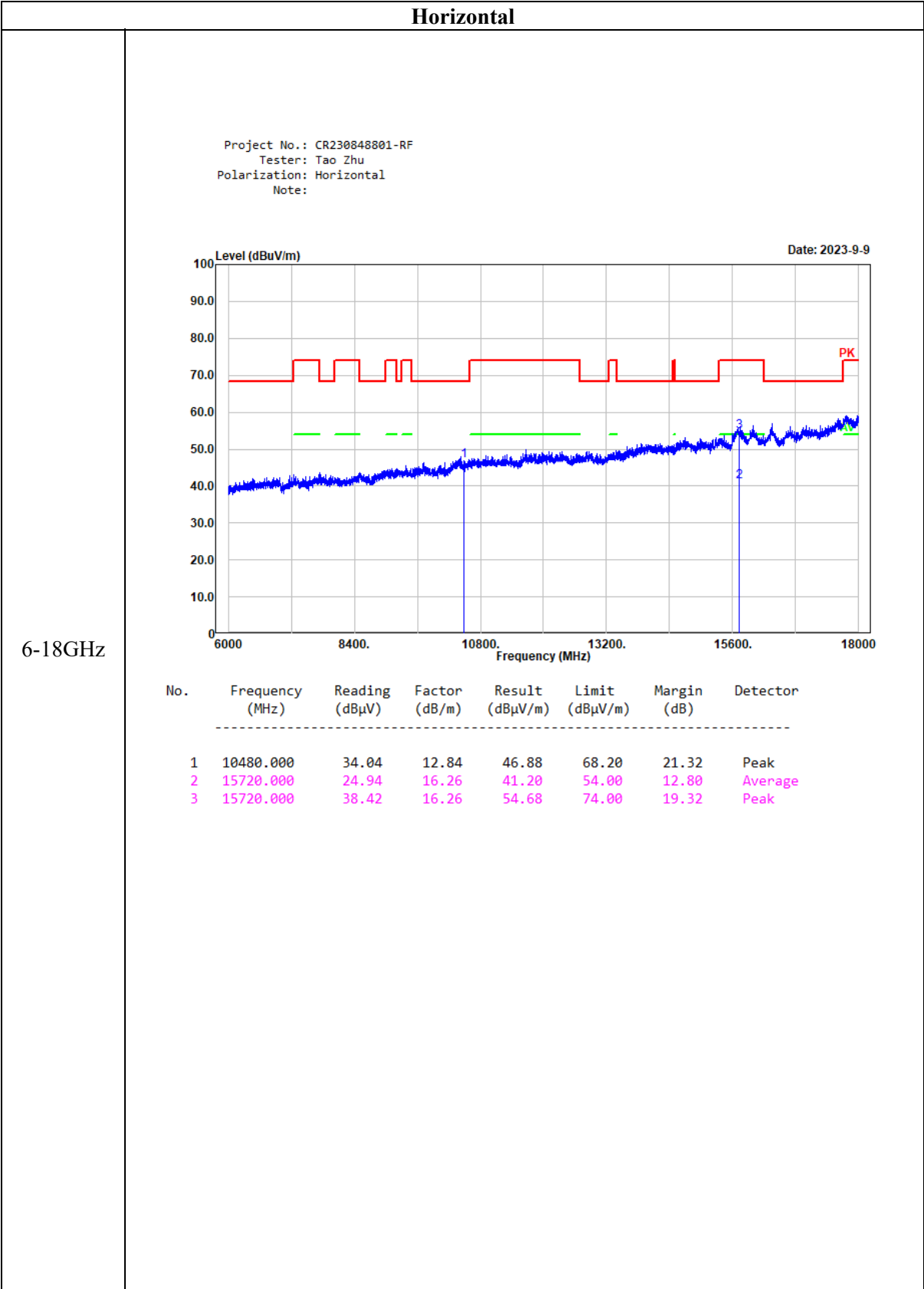
Date: 2023-09-09

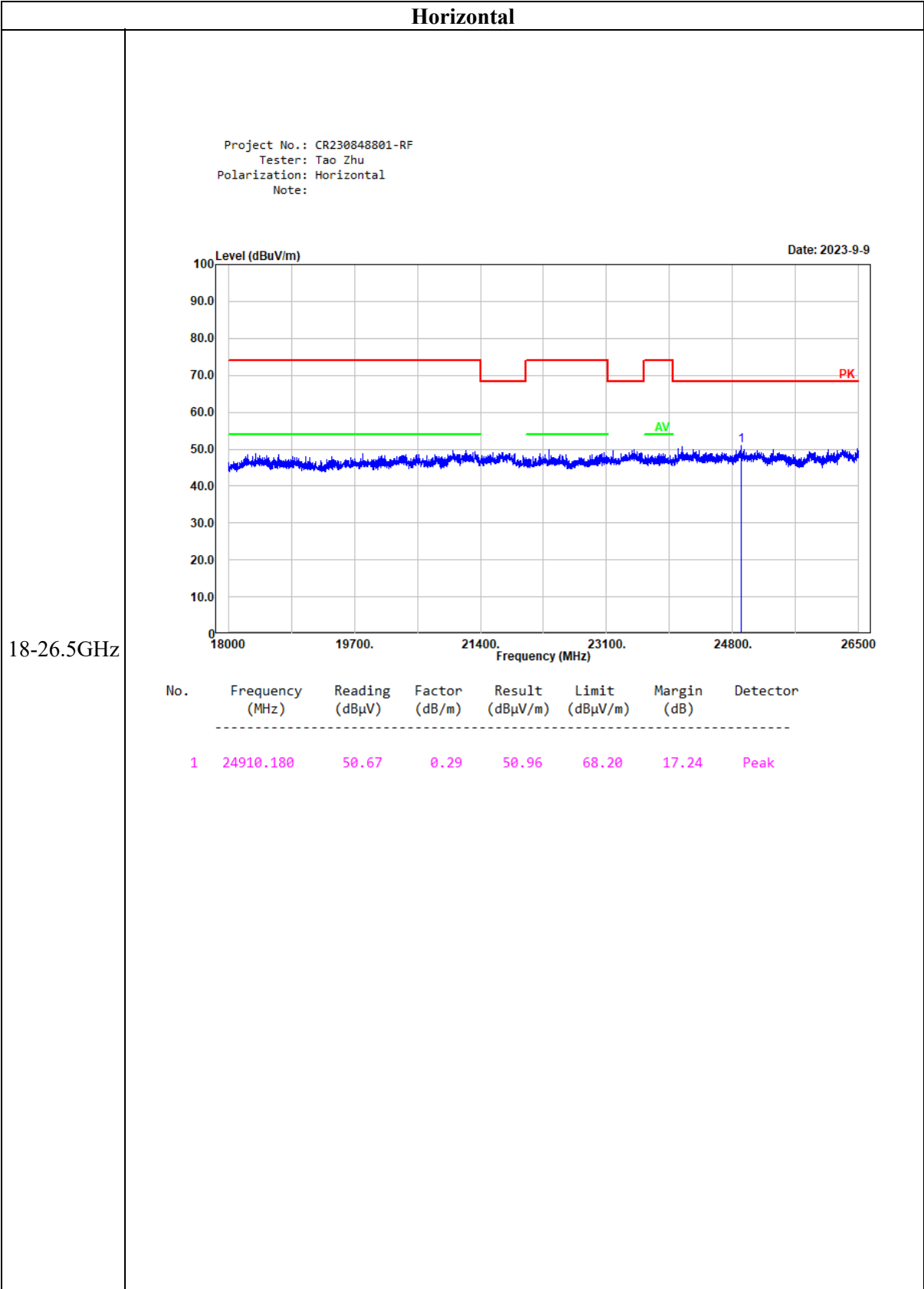


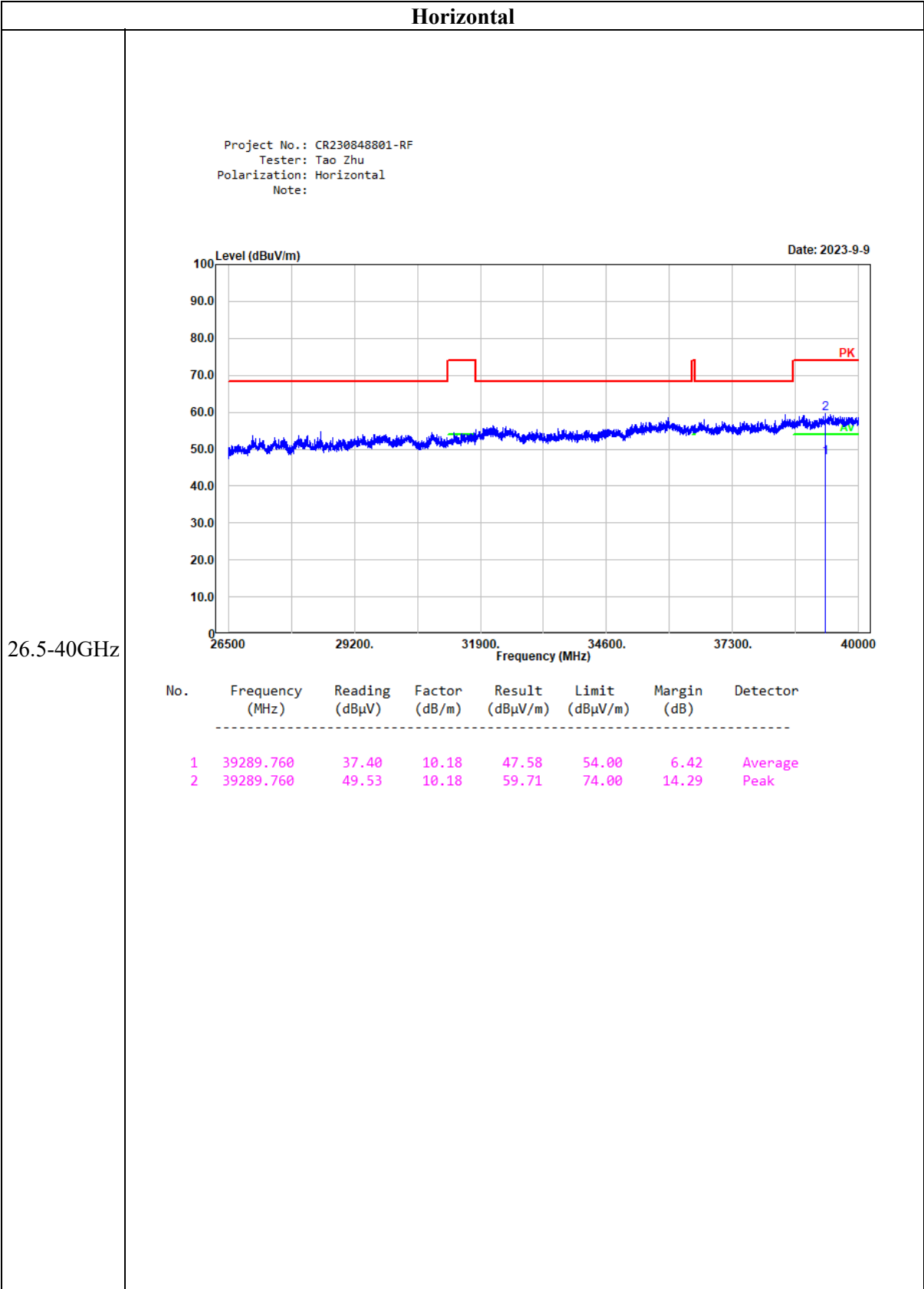
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.283	30.51	33.50	64.01	119.27	55.26	Peak
2	5855.738	31.57	33.51	65.08	110.59	45.51	Peak
3	5885.868	31.06	33.64	64.70	97.13	32.43	Peak
4	5928.615	31.01	33.67	64.68	68.20	3.52	Peak

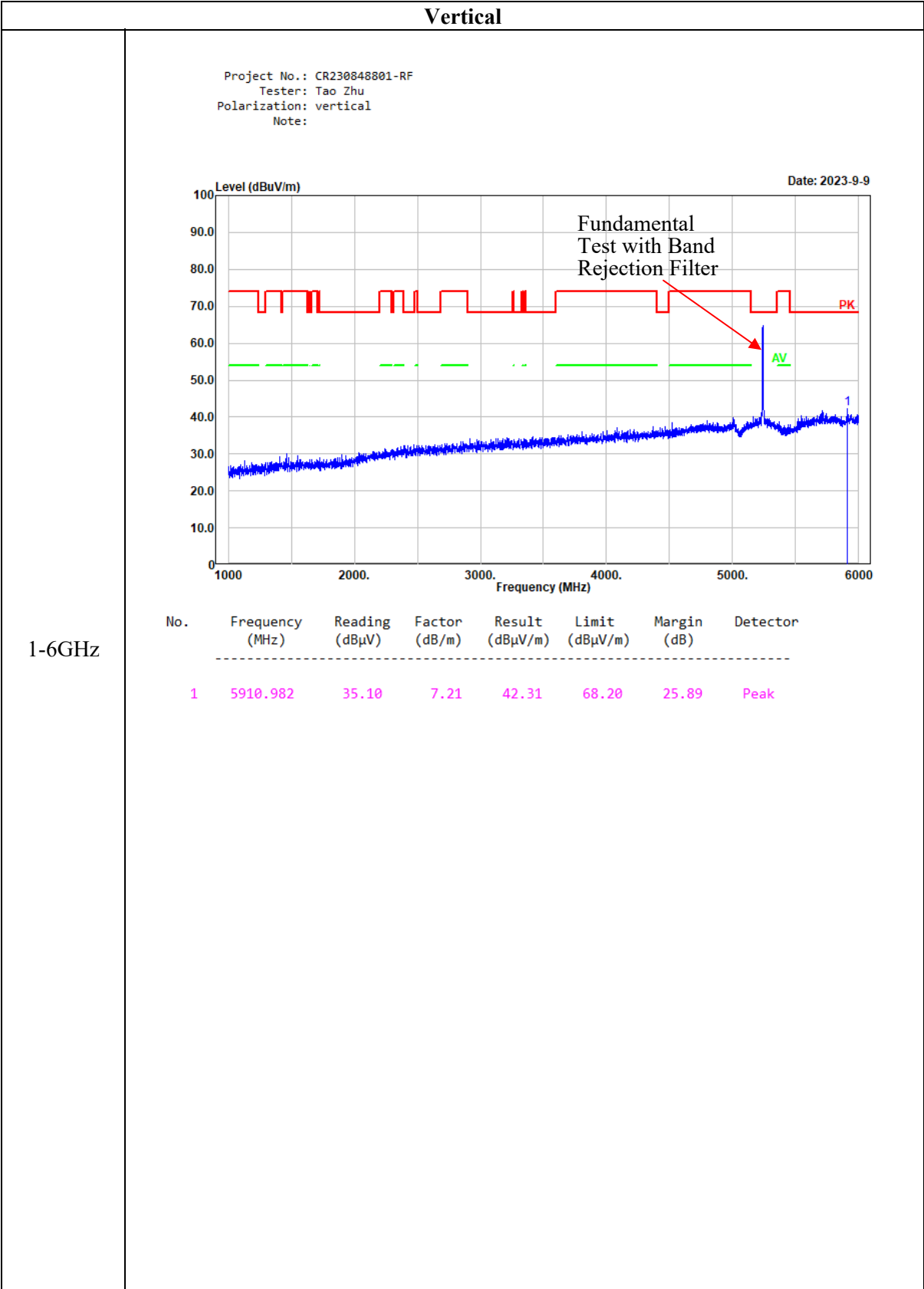
Worst Test plots (802.11ax hew20 5240 MHz)

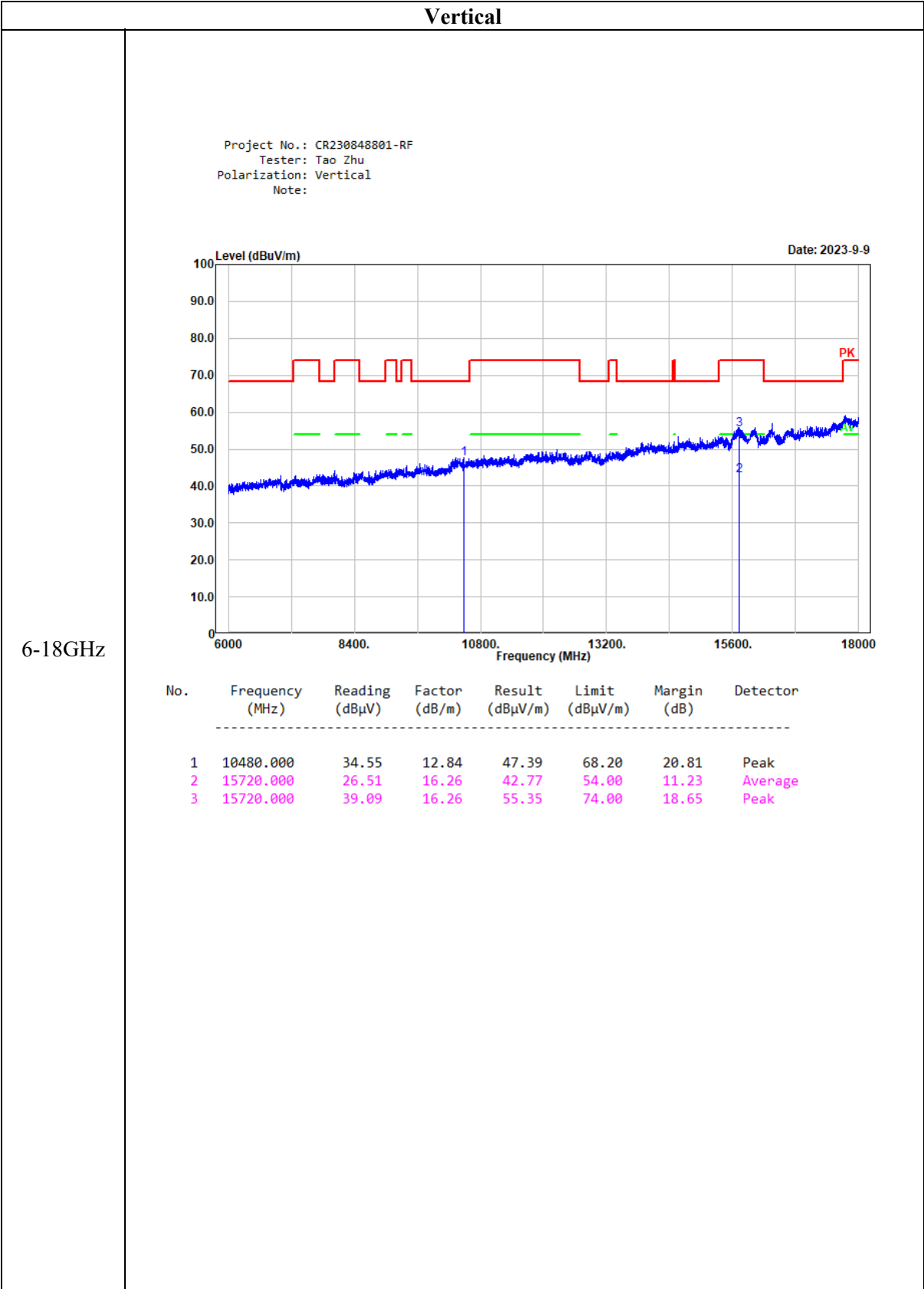


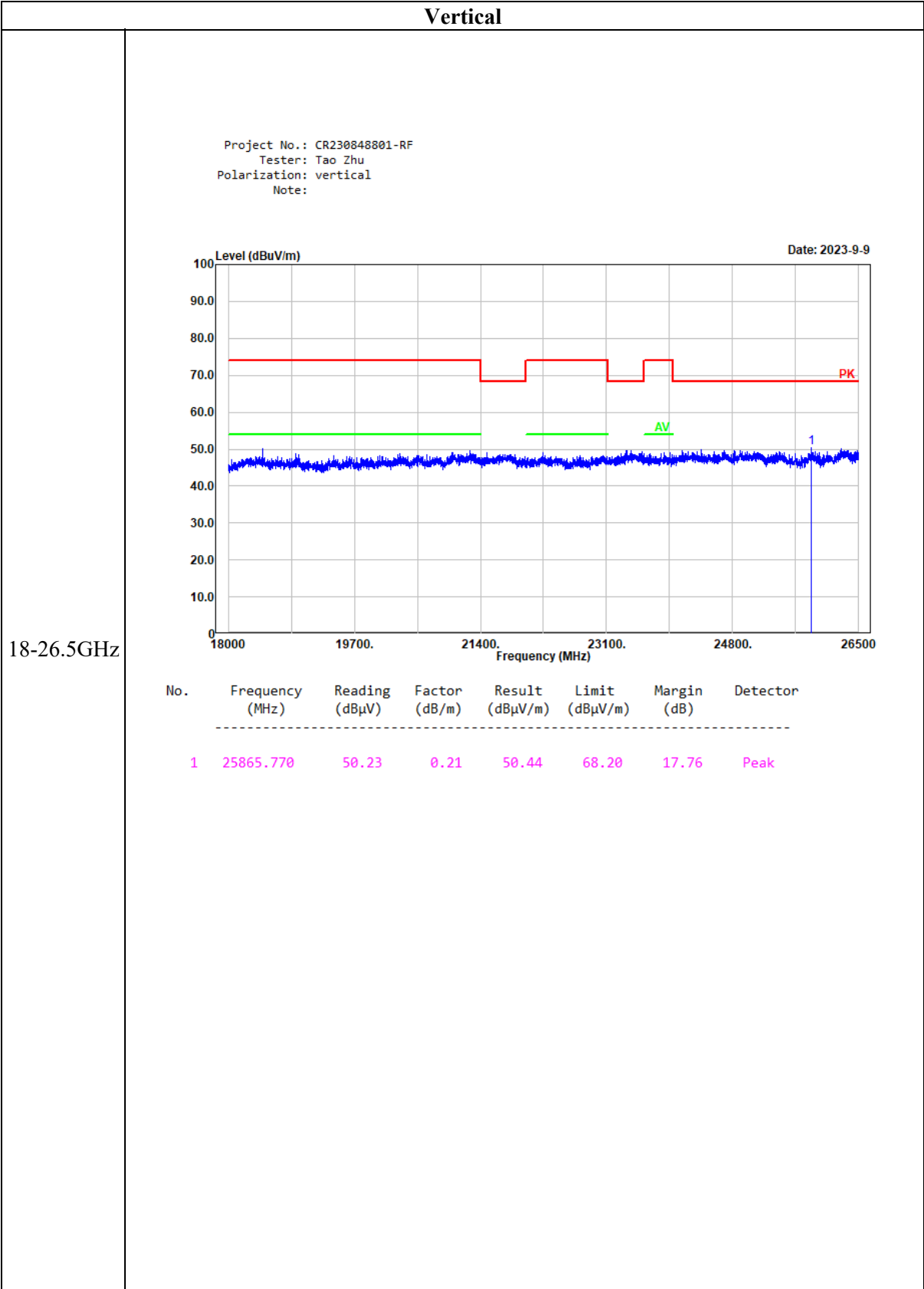


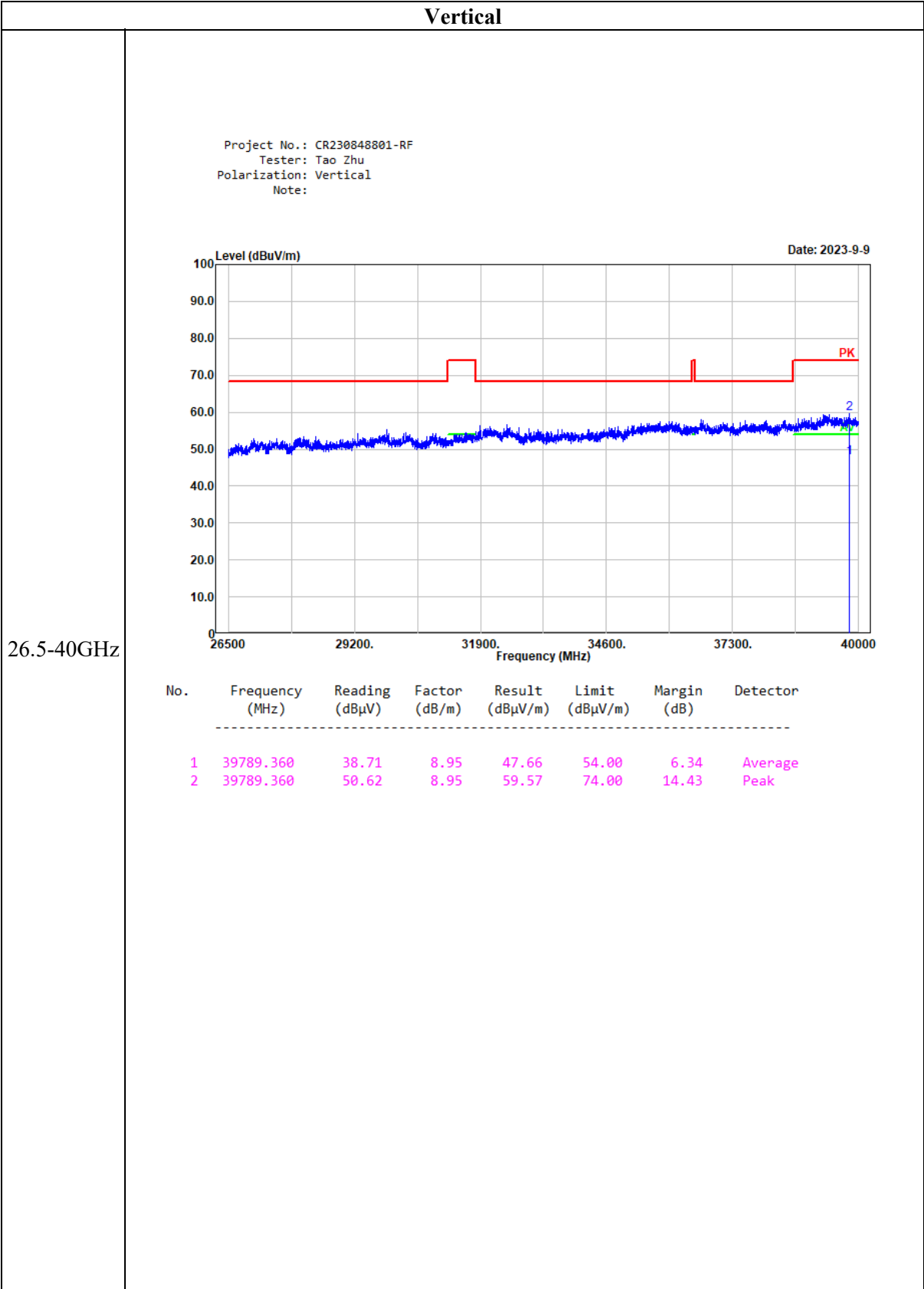












4.3 Emission Bandwidth:

Serial Number:	2A8G-2	Test Date:	2023/9/11-2023/9/12
Test Site:	RF	Test Mode:	Transmitting
Tester:	LingLing Li	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.9-26.2	Relative Humidity: (%)	60-62	ATM Pressure: (kPa)	100.2-100.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	100147	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180	20.288	16.987
	5200	20.288	16.987
	5240	20.385	16.987
802.11n ht20	5180	20.481	17.821
	5200	20.673	17.821
	5240	20.673	17.756
802.11ax hew20	5180	20.865	18.910
	5200	20.769	18.910
	5240	20.769	18.846
Note: the 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth			

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260	20.673	16.987
	5280	20.481	16.987
	5320	20.577	16.987
802.11n ht20	5260	20.865	17.756
	5280	20.769	17.821
	5320	20.769	17.756
802.11ax hew20	5260	20.962	18.91
	5280	20.865	18.91
	5320	20.865	18.91

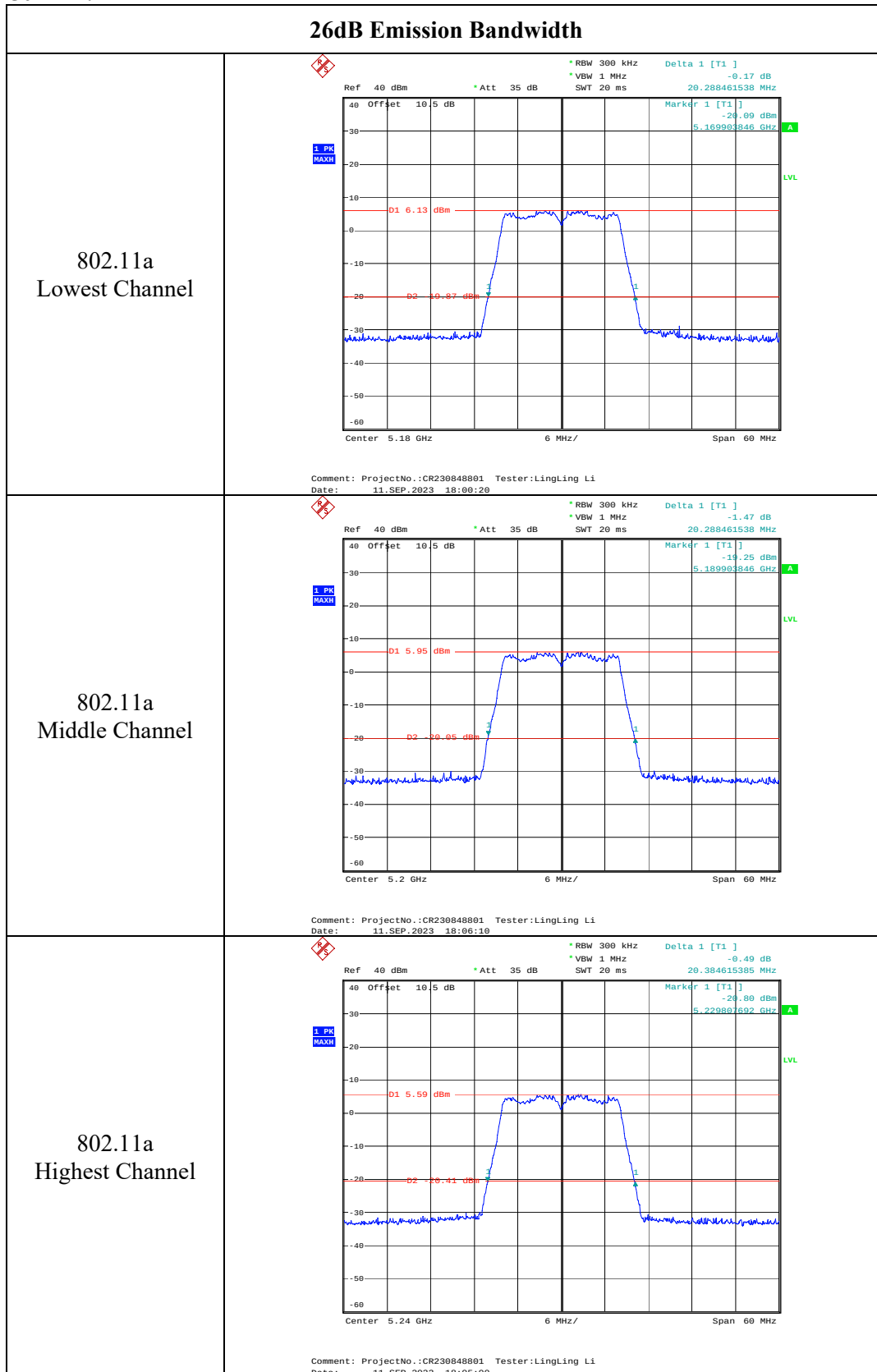
5470-5725 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5500	25.385	17.115
	5580	34.231	17.5
	5700	47.115	28.045
	5720	45.833	27.724
802.11n ht20	5500	28.077	17.885
	5580	41.987	18.782
	5700	49.519	32.051
	5720	46.795	32.772
802.11ax hew20	5500	20.962	18.91
	5580	26.923	18.91
	5700	46.314	19.936
	5720	47.115	22.179

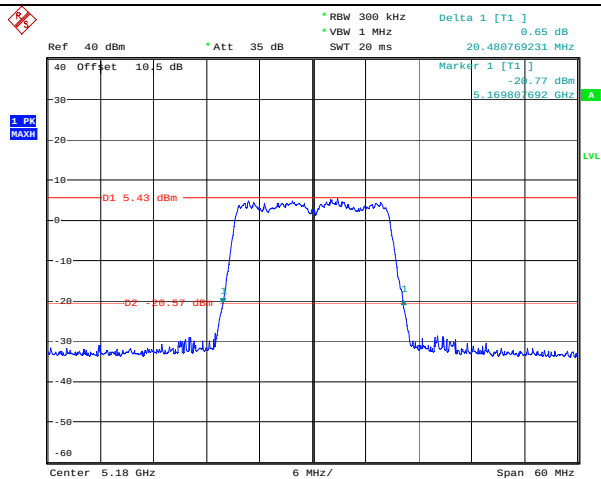
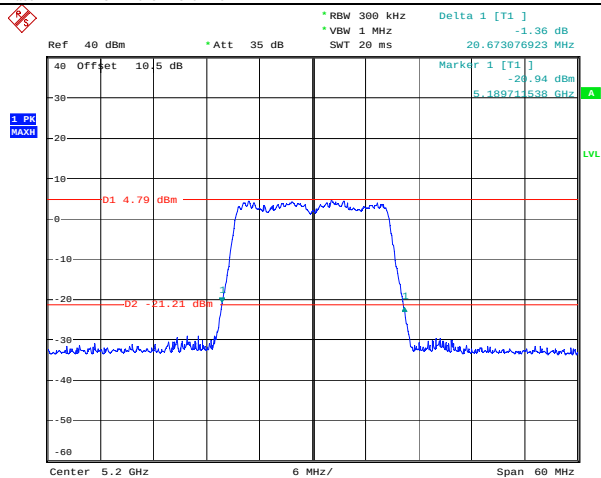
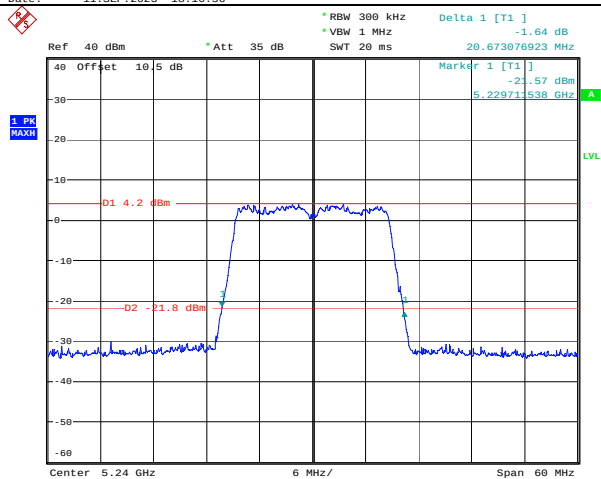
5725-5850 MHz:

Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5745	16.474	37.692
	5785	16.474	36.538
	5825	16.474	32.5
802.11n ht20	5745	17.628	39.327
	5785	17.628	39.038
	5825	17.5	33.365
802.11ax hew20	5745	18.782	34.615
	5785	18.526	33.077
	5825	18.269	27.019
Note:6dB Emission Bandwidth Limit: ≥ 0.5 MHz The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.			

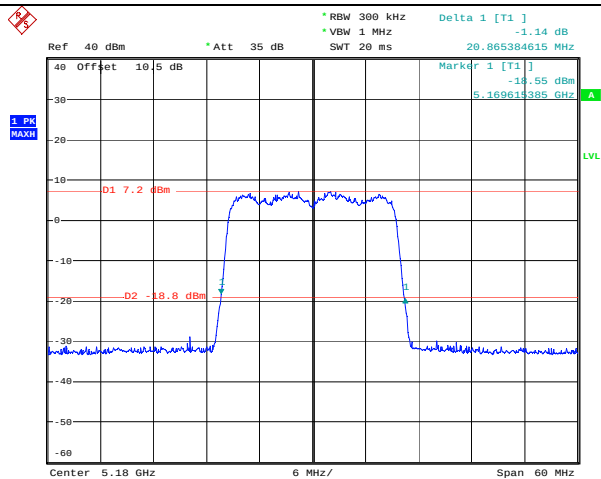
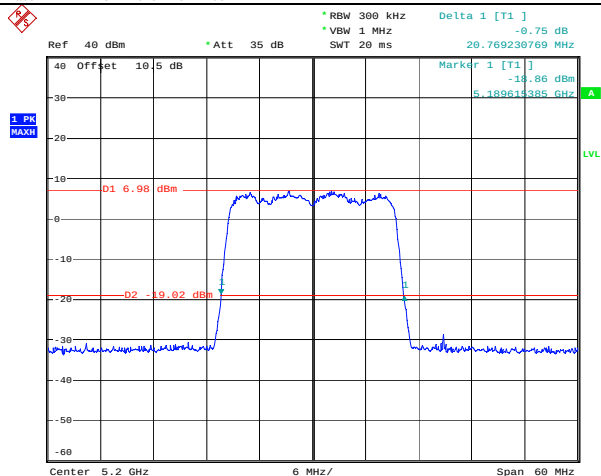
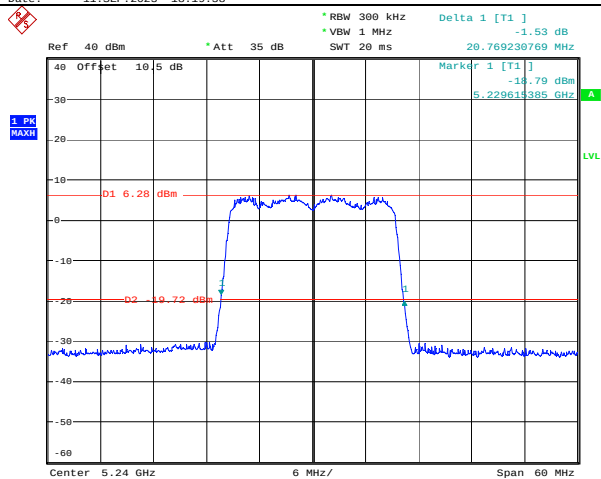
5150-5250MHz:



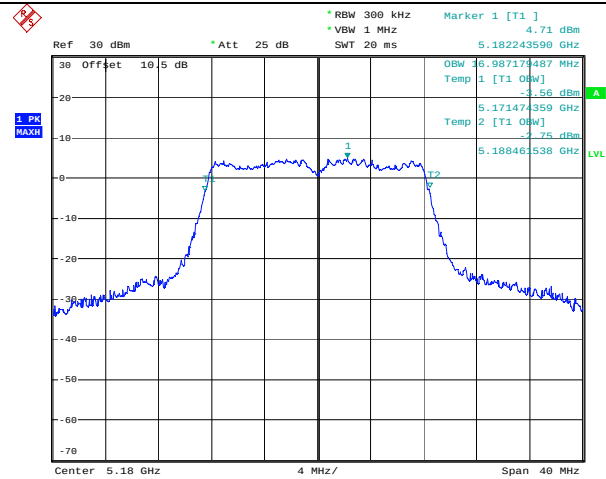
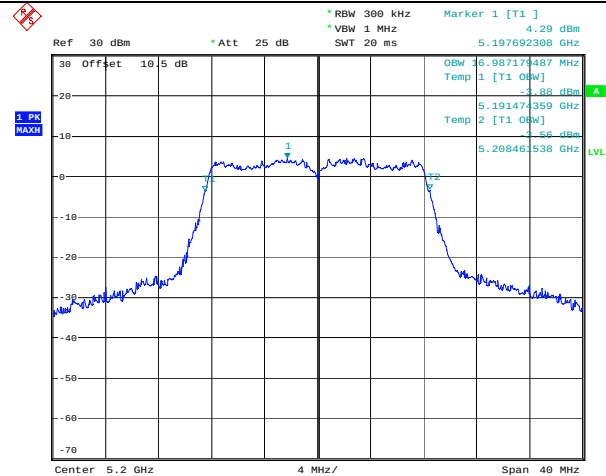
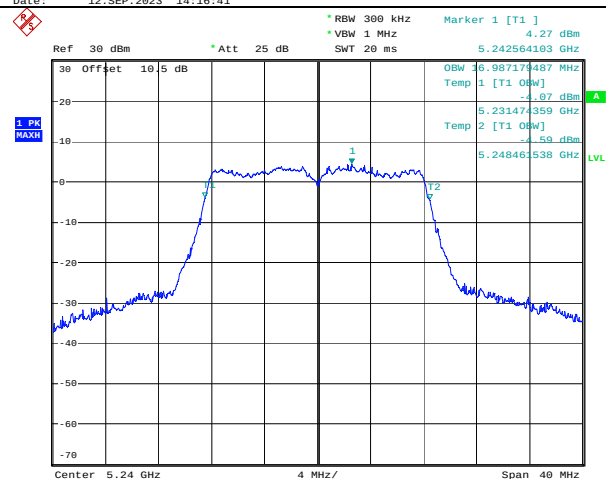
26dB Emission Bandwidth

802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:07:46802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:10:56802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:12:15

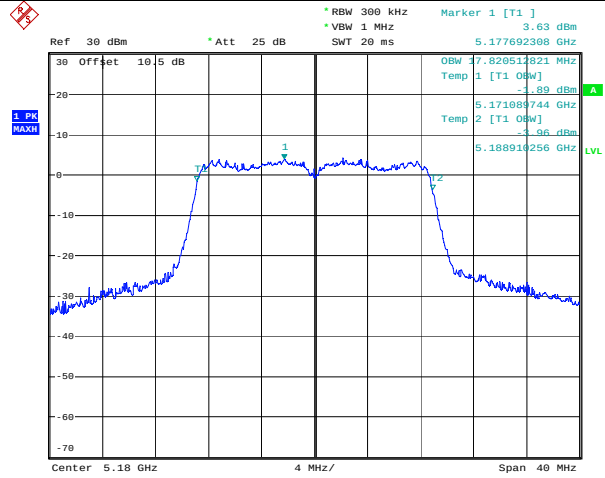
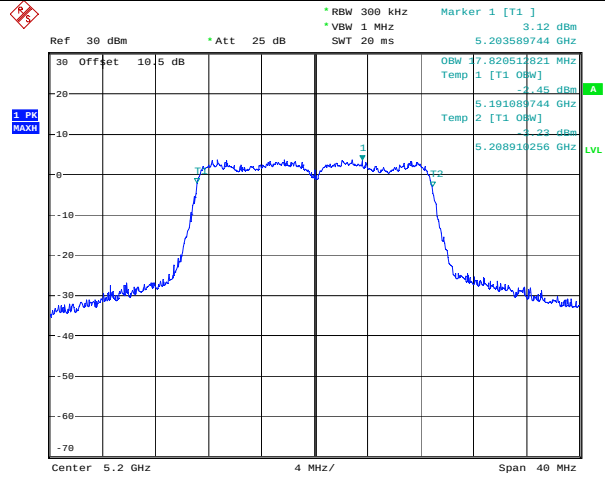
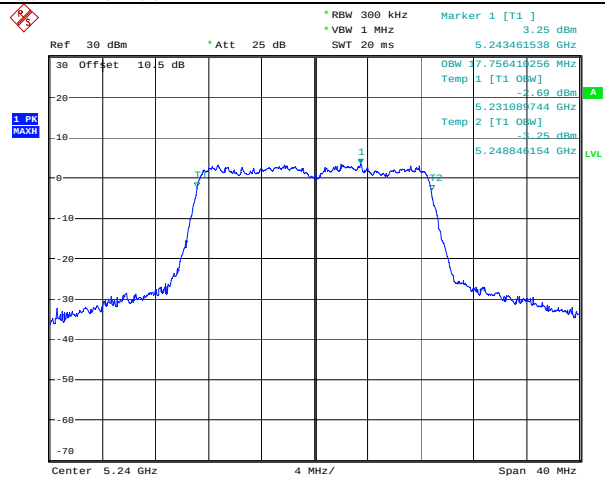
26dB Emission Bandwidth

802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:17:03802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:19:38802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 11.SEP.2023 18:22:08

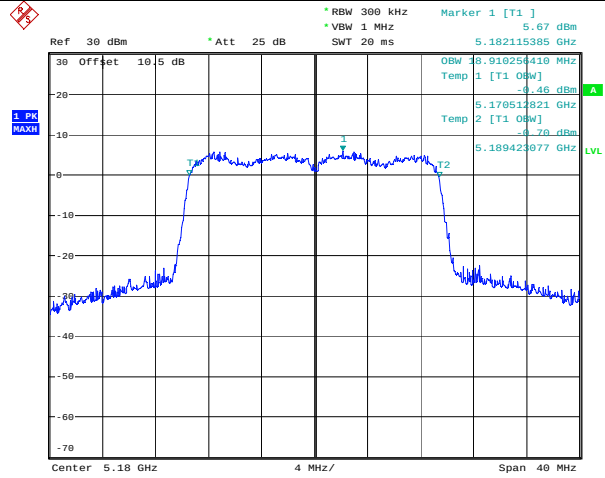
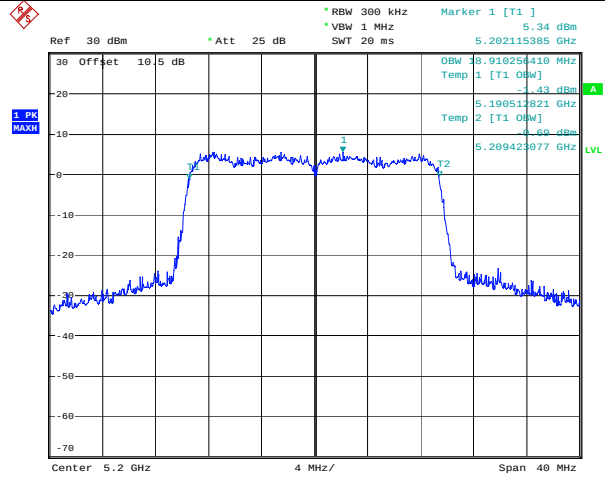
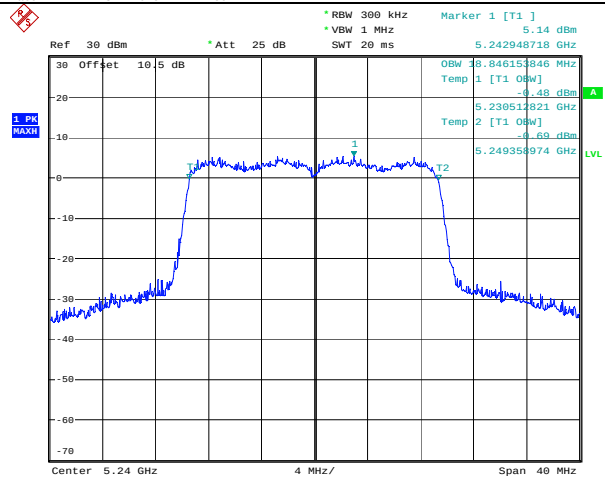
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

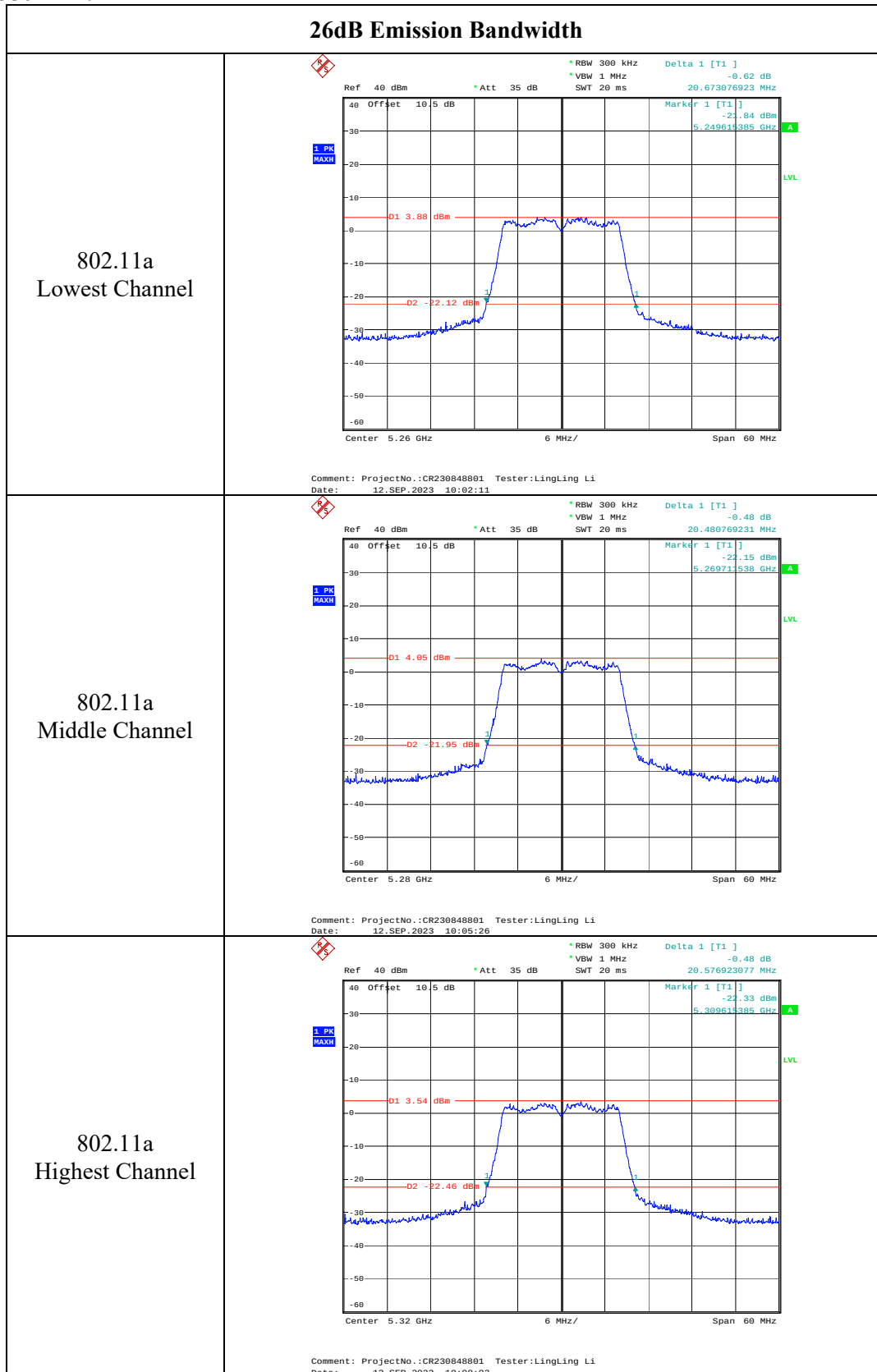
99% Emission Bandwidth

802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:21:51802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:21:17802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:20:19

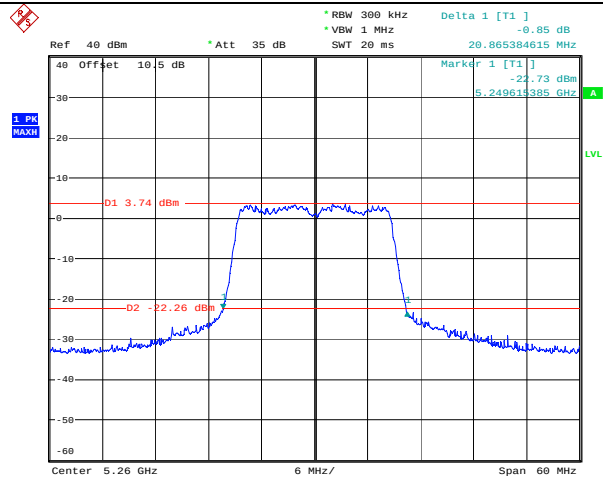
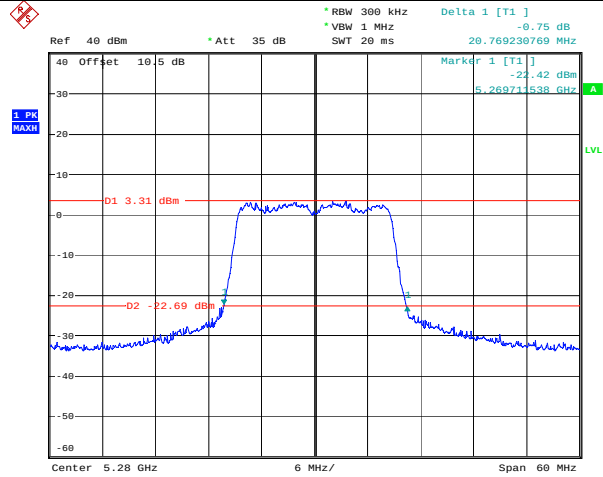
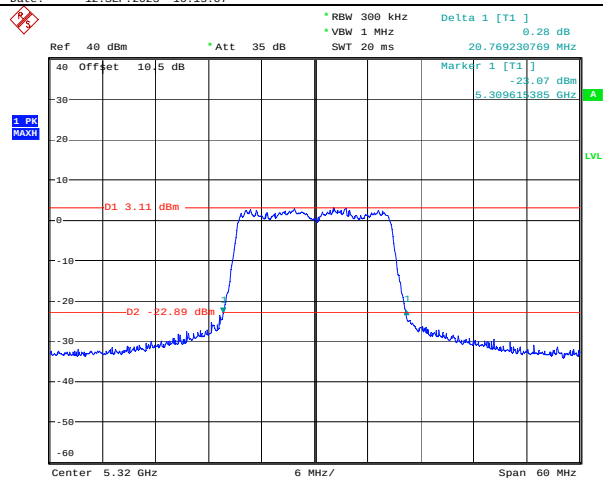
99% Emission Bandwidth

802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:22:23802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:22:59802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:23:31

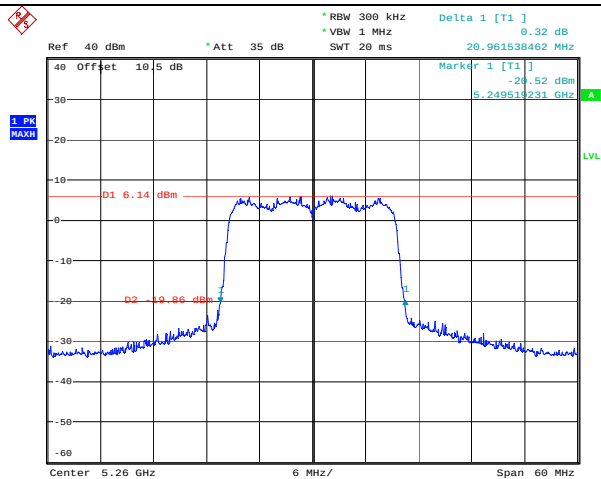
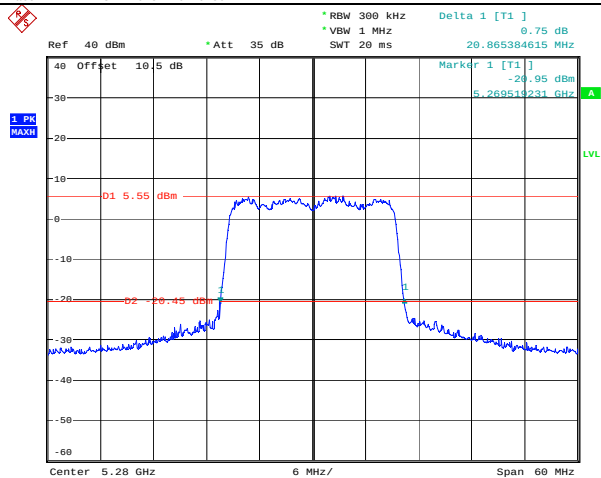
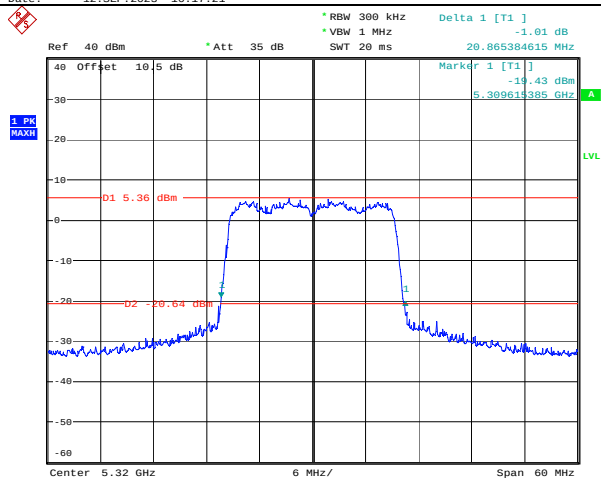
5250-5350MHz:



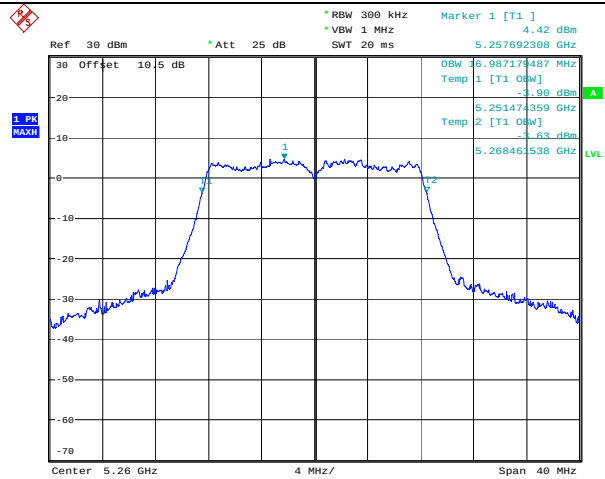
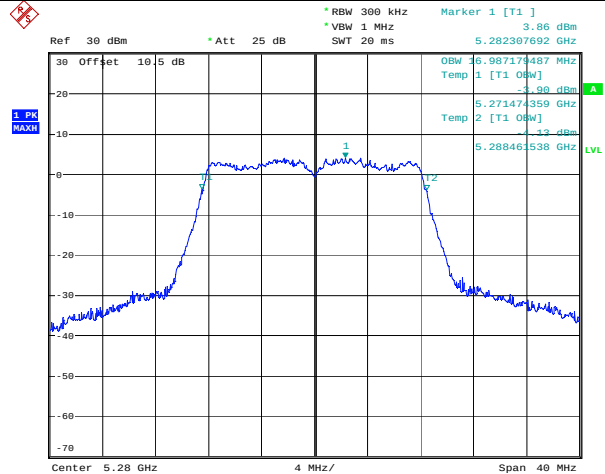
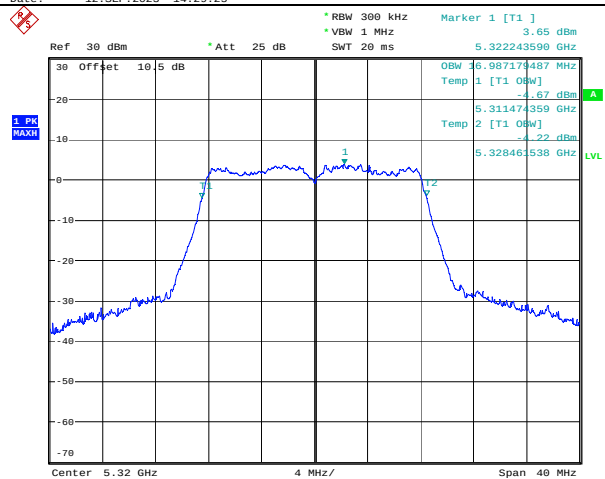
26dB Emission Bandwidth

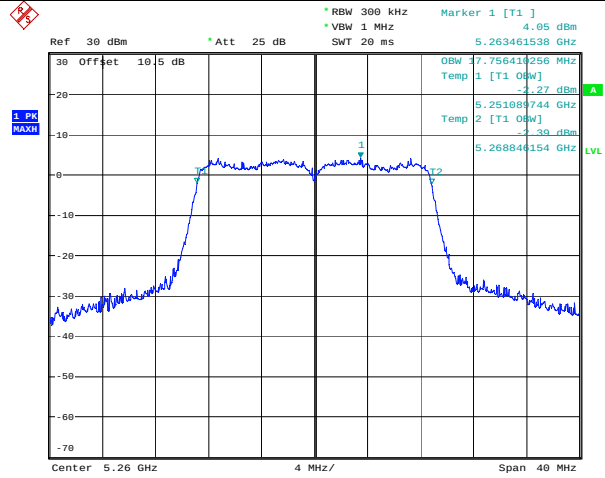
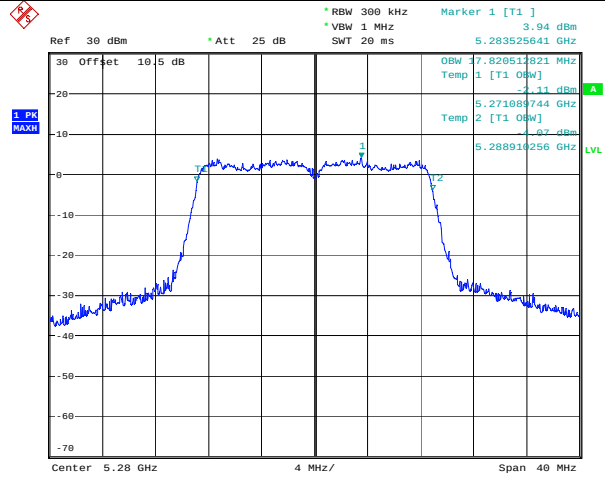
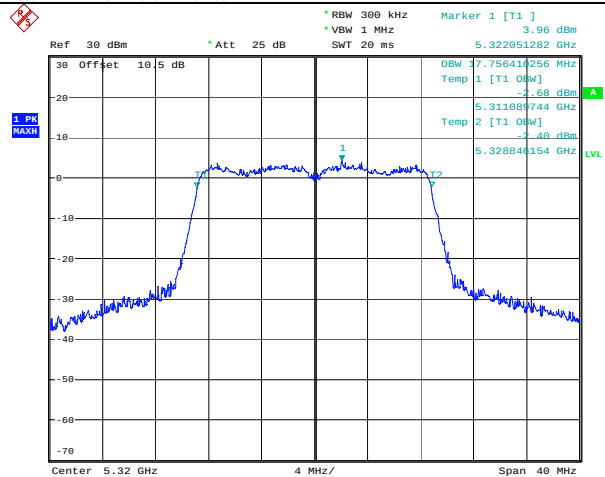
802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:12:43802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:15:07802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:10:31

26dB Emission Bandwidth

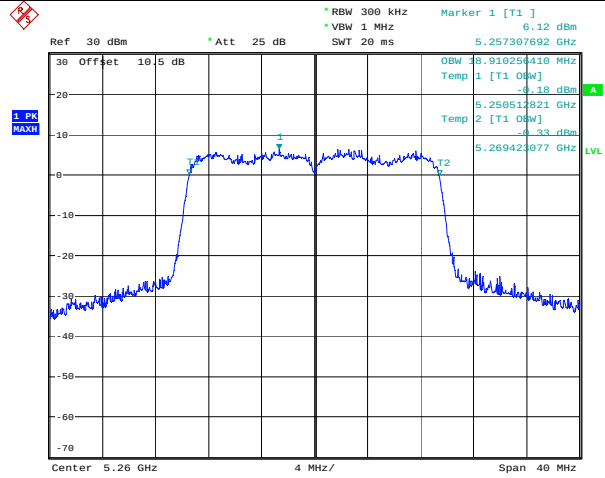
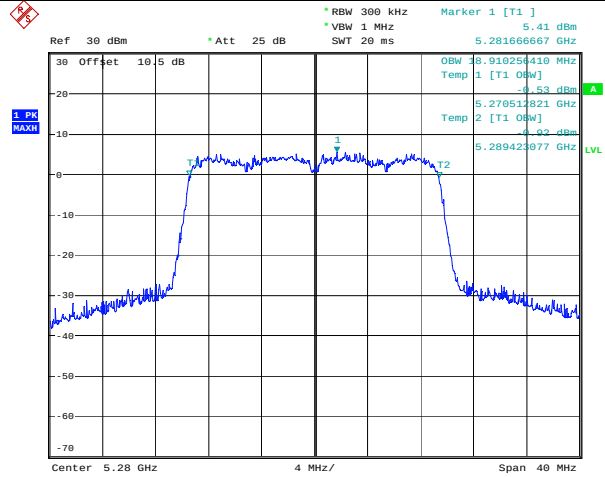
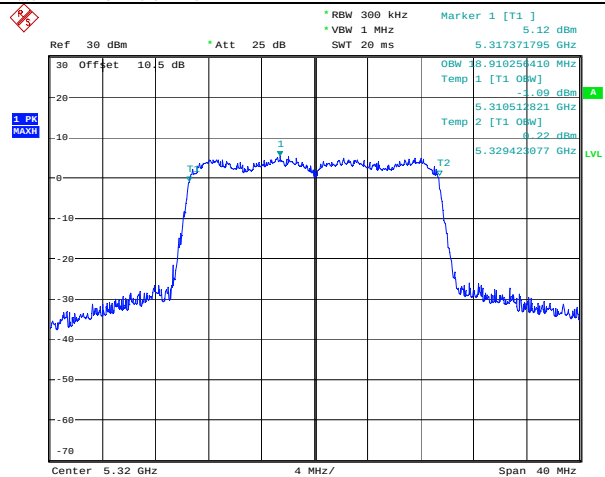
802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:10:30802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:17:21802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:21:03

99% Emission Bandwidth

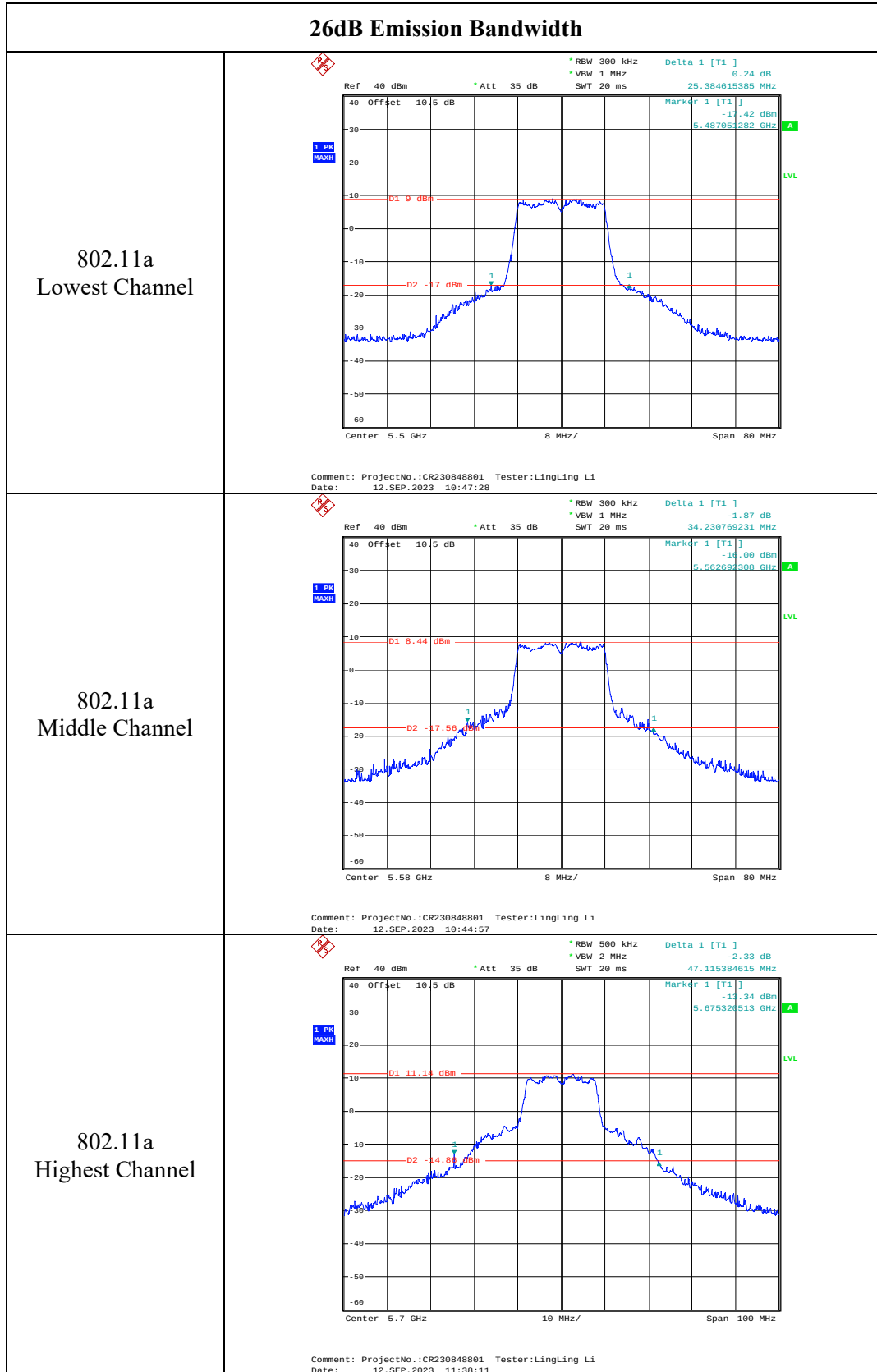
802.11a
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:27:42802.11a
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:29:25802.11a
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:30:24

99% Emission Bandwidth802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:32:47802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:32:05802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:31:03

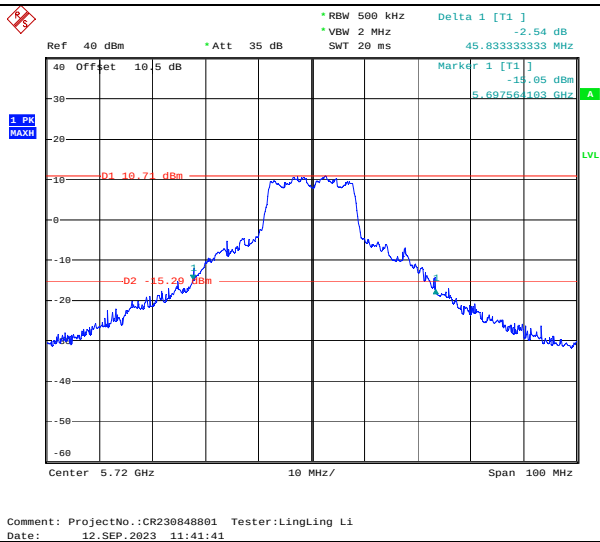
99% Emission Bandwidth

802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:33:32802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:34:11802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:34:47

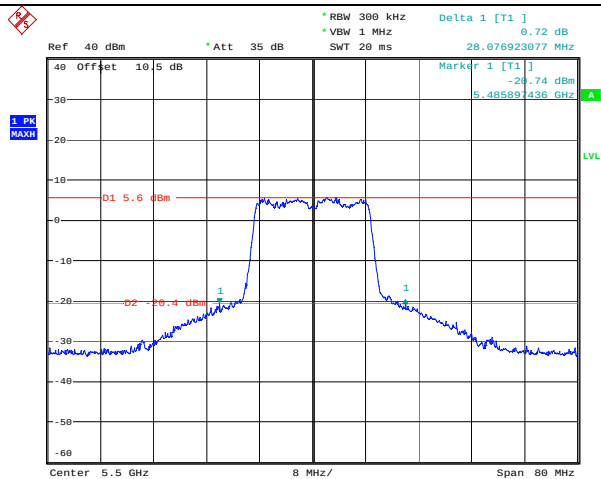
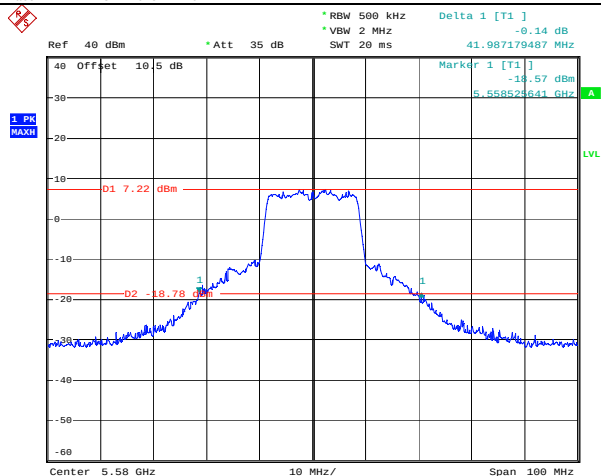
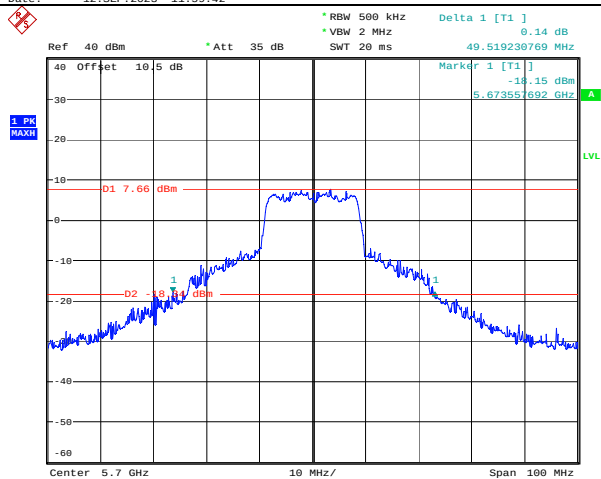
5470-5725MHz:



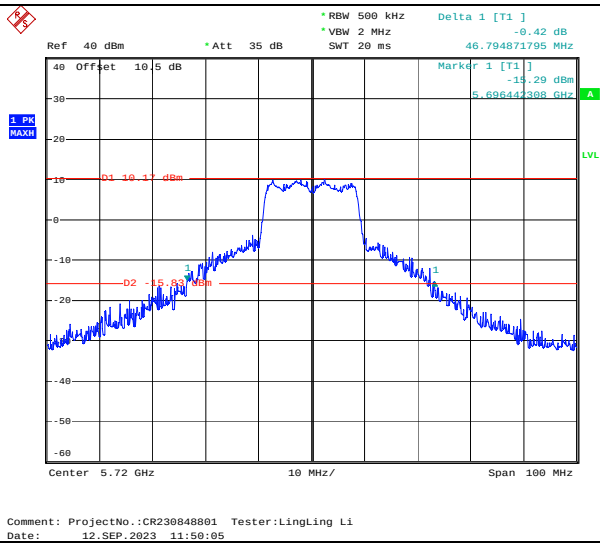
802.11a
5720 MHz



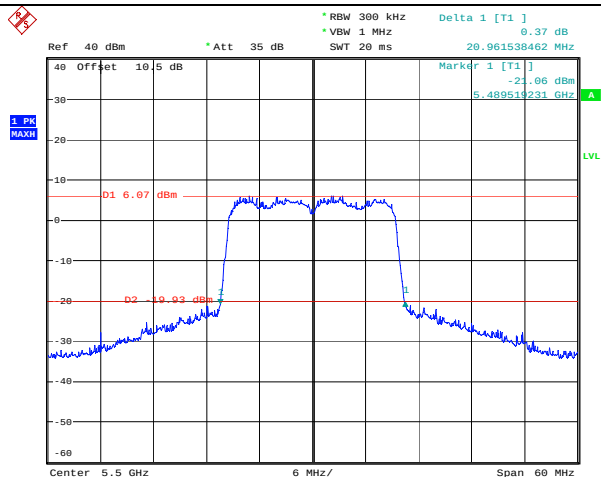
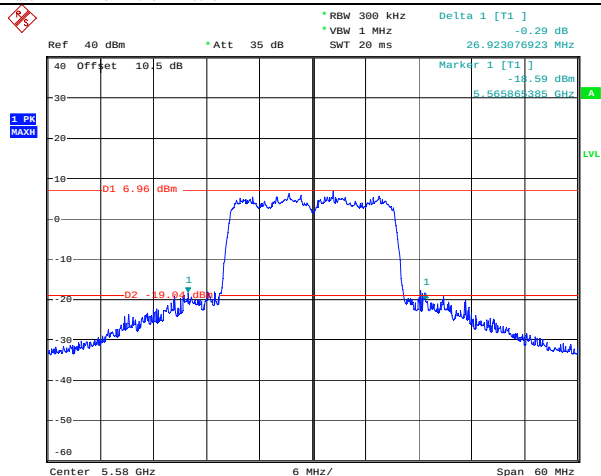
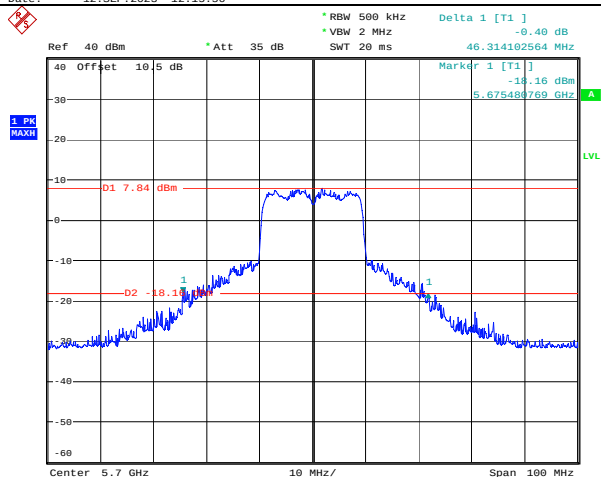
26dB Emission Bandwidth

802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 12:07:41802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 11:59:42802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 11:57:09

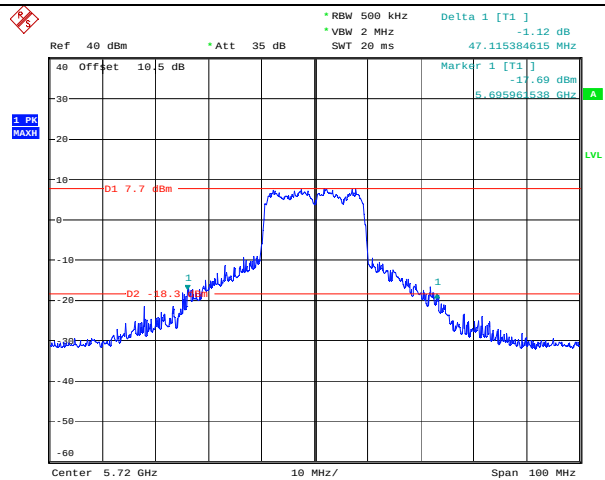
802.11n ht20
5720 MHz



26dB Emission Bandwidth

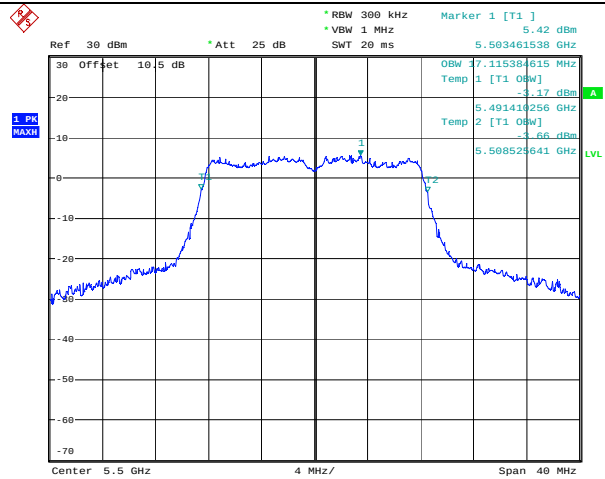
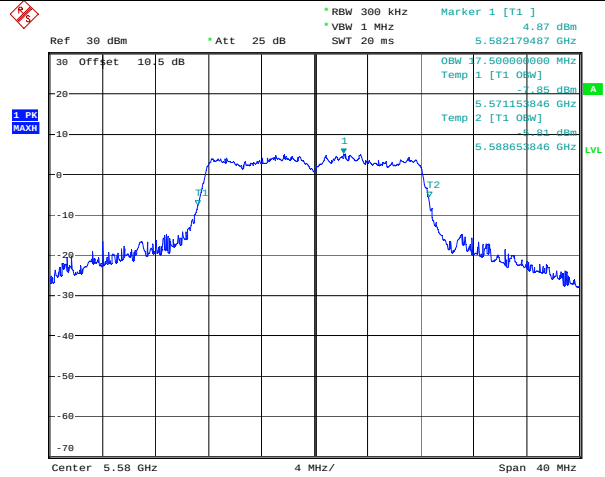
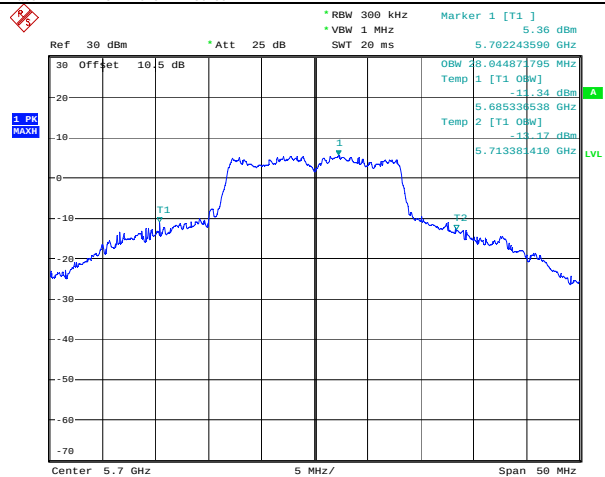
802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 12:09:34802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 12:15:50802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 12:17:46

802.11ax hew20
5720 MHz



Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 12:19:40

99% Emission Bandwidth

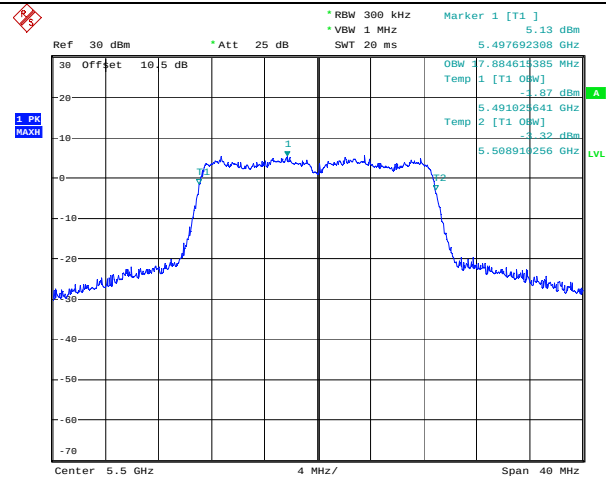
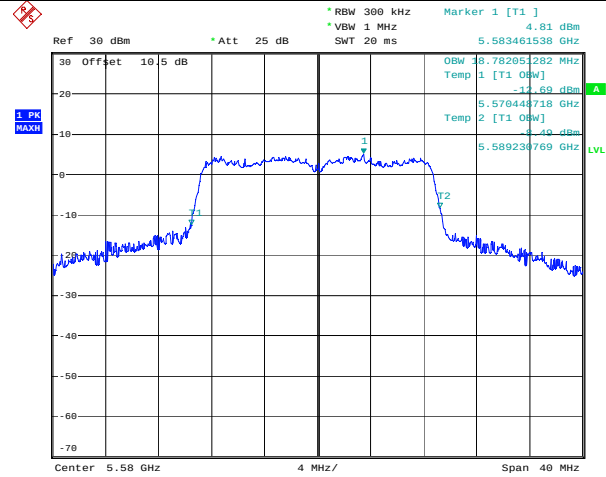
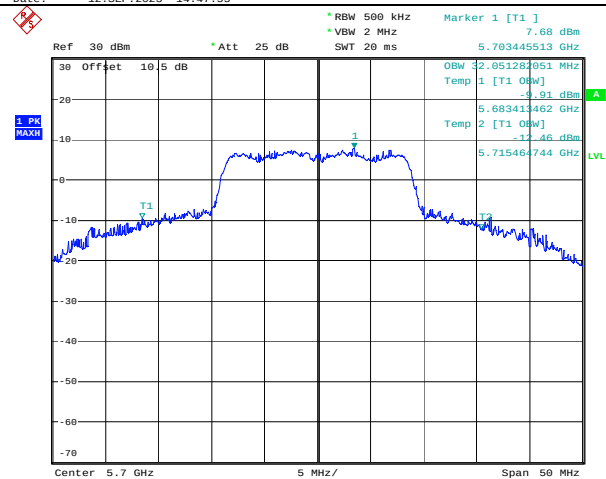
802.11a
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:35:50802.11a
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:36:59802.11a
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:41:36

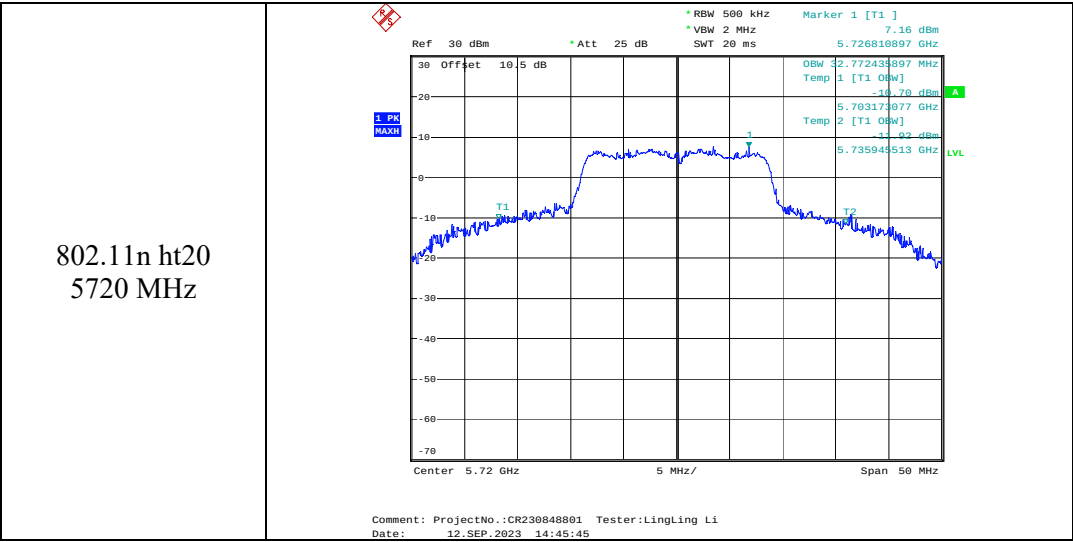
The screenshot displays a spectrum analyzer interface with a blue trace showing a signal. The x-axis represents frequency, with a center frequency of 5.72 GHz, a 5 MHz resolution bandwidth (RBW), and a 50 MHz span. The y-axis represents power in dBm, ranging from -70 to 30. The signal has a flat top at approximately -5 dBm and sloped sides. Two markers are present: Marker 1 [T1] at the top of the flat region and Marker 2 [T2] on the right slope. The top of the screen shows settings: RBW 300 kHz, VBW 1 MHz, SWT 20 ms, and Att 25 dB. The top right corner shows the reference level at 30 dBm and an offset of 10 dB. The bottom status bar shows the center frequency, resolution bandwidth, and span.

Parameter	Value
Center	5.72 GHz
Span	50 MHz
RBW	300 kHz
VBW	1 MHz
SWT	20 ms
Att	25 dB
Ref	30 dBm
Offset	10 dB
Marker 1 [T1]	5.72243590 GHz
Marker 2 [T2]	5.73381282 GHz
OBW	27.724355974 MHz
Temp 1 [T1 OBW]	-1.00 dBm
Temp 2 [T2 OBW]	-15.45 dBm

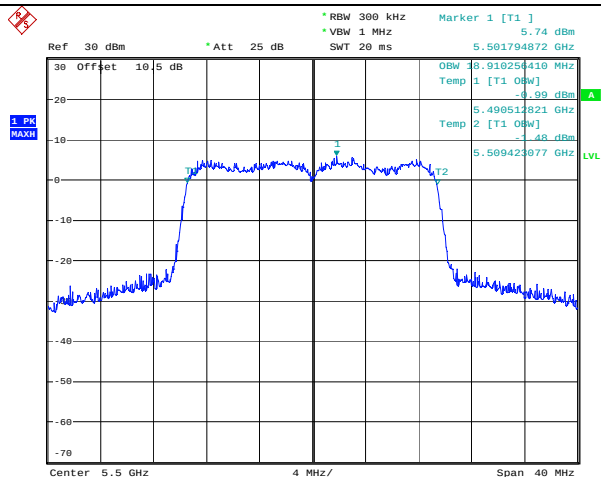
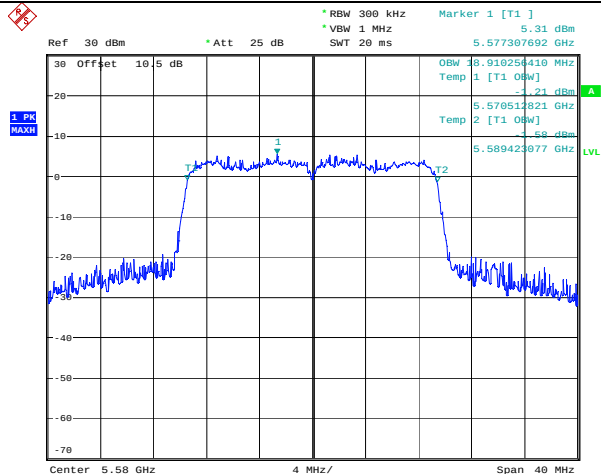
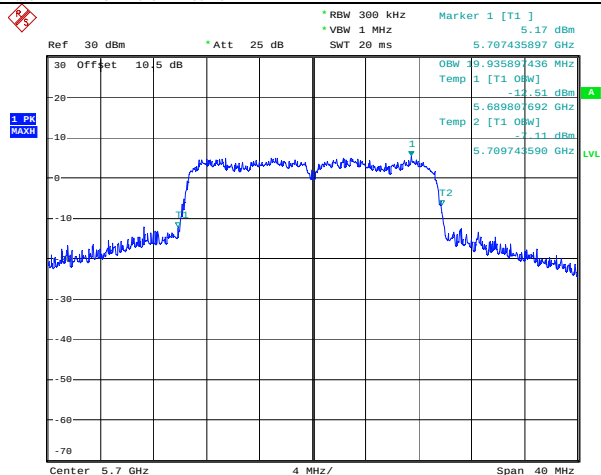
Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:42:25

99% Emission Bandwidth

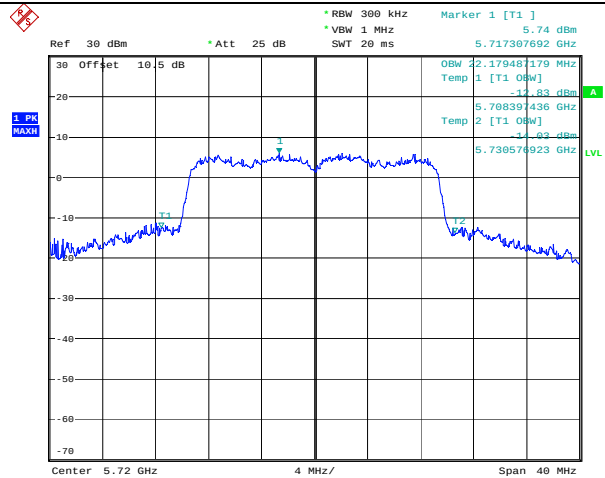
802.11n ht20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:48:31802.11n ht20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:47:55802.11n ht20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:46:53



99% Emission Bandwidth

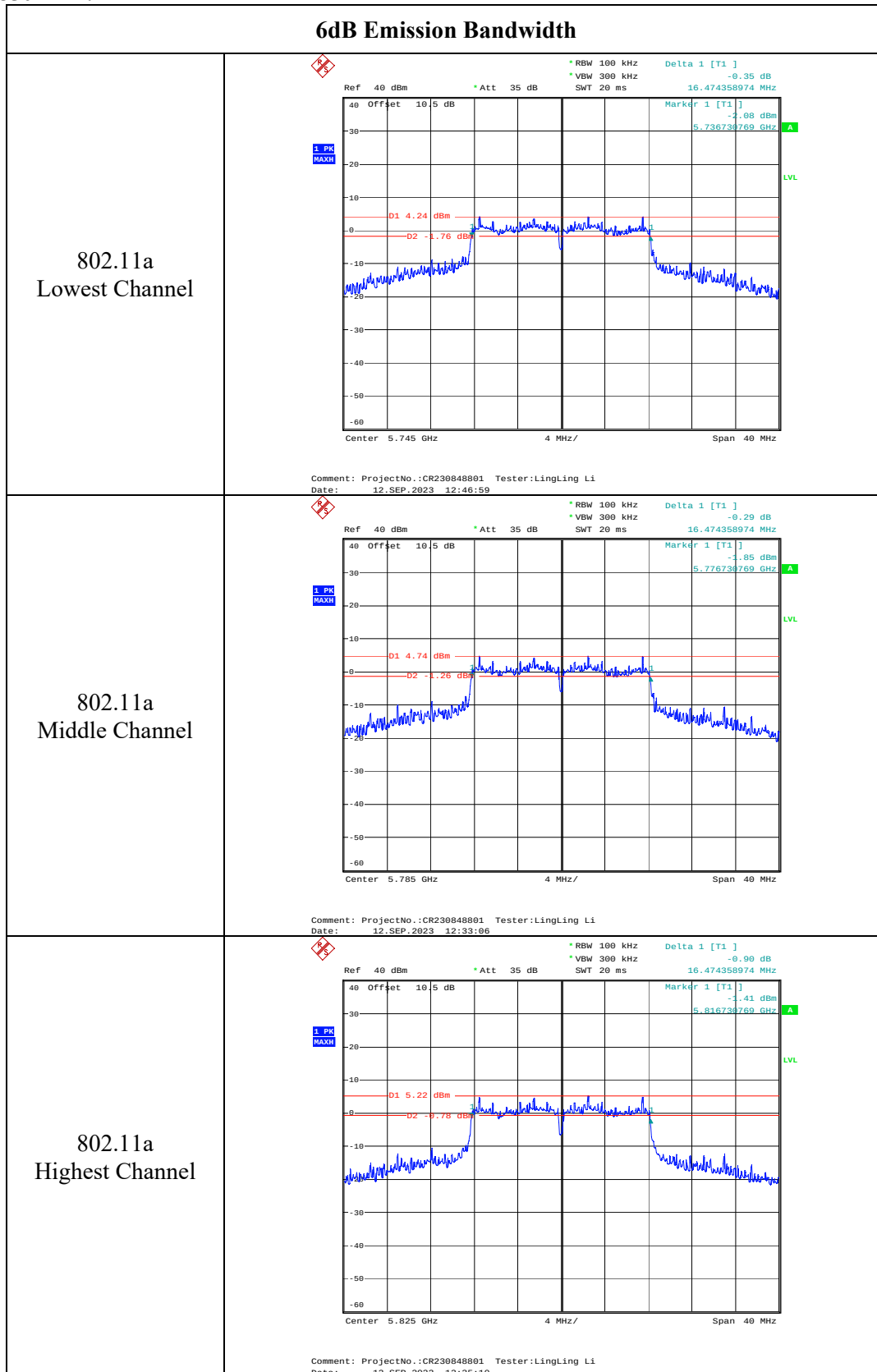
802.11ax hew20
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:49:51802.11ax hew20
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:50:43802.11ax hew20
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:51:58

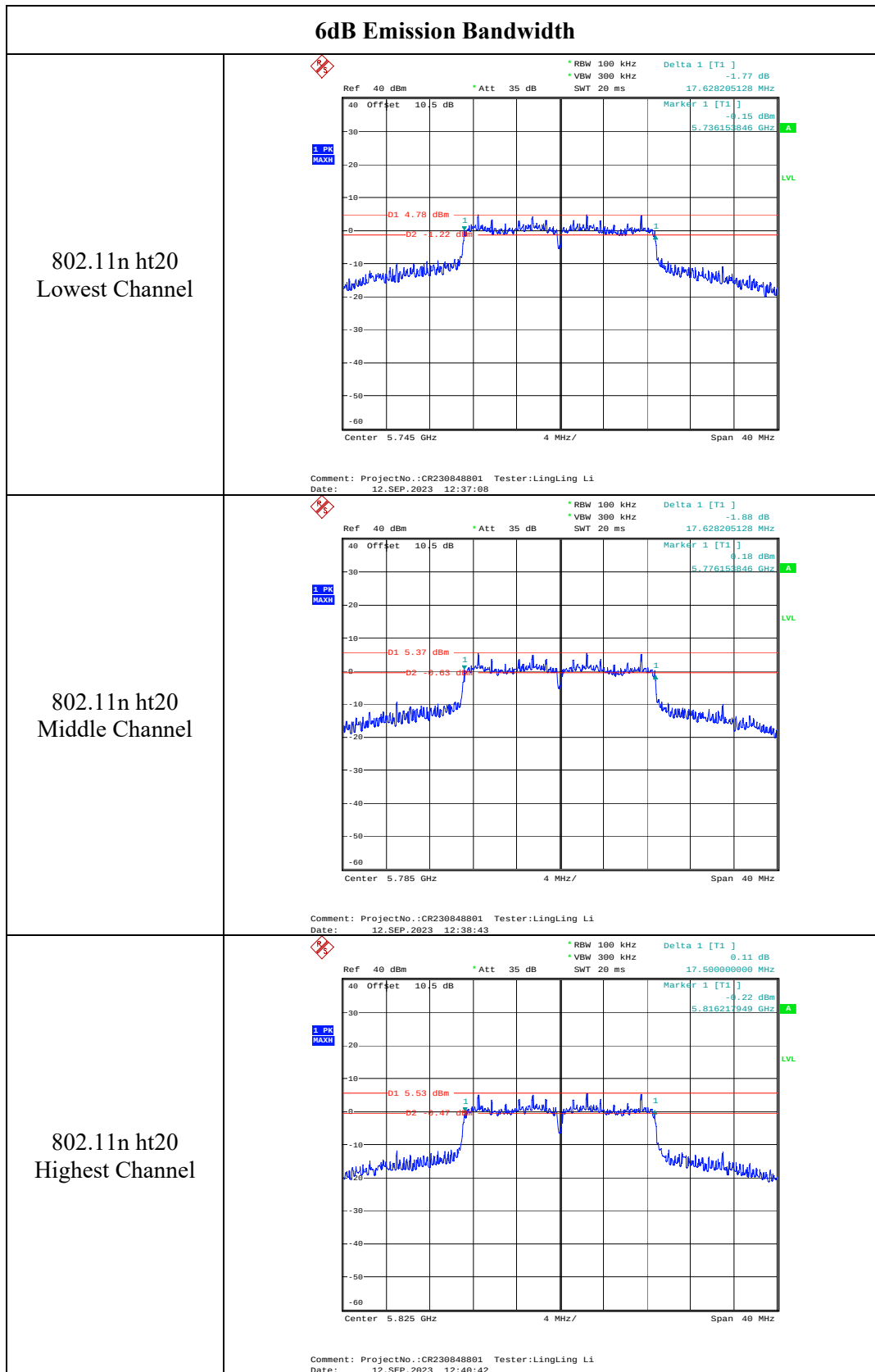
802.11ax hew20
5720 MHz

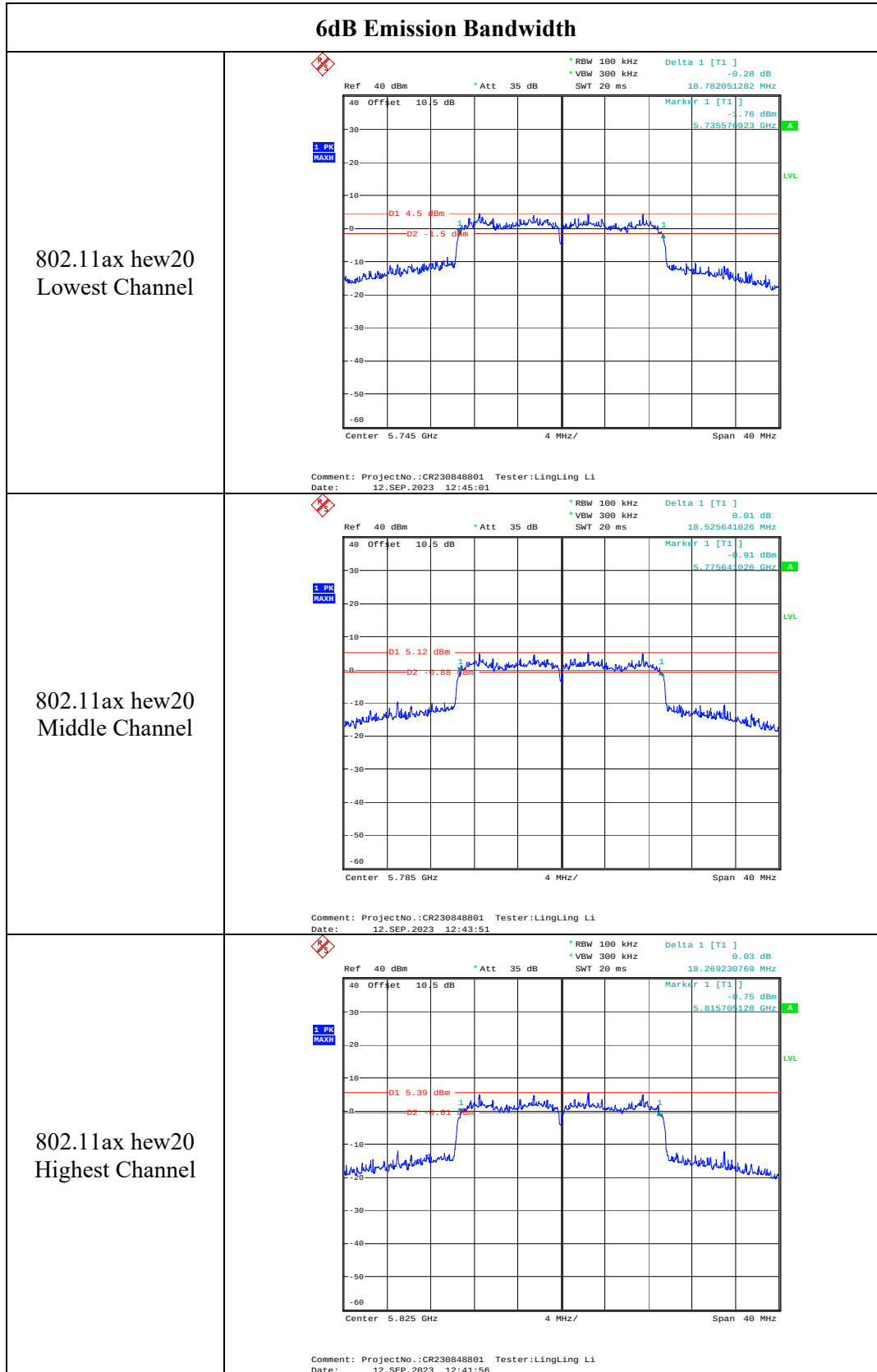


Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:54:28

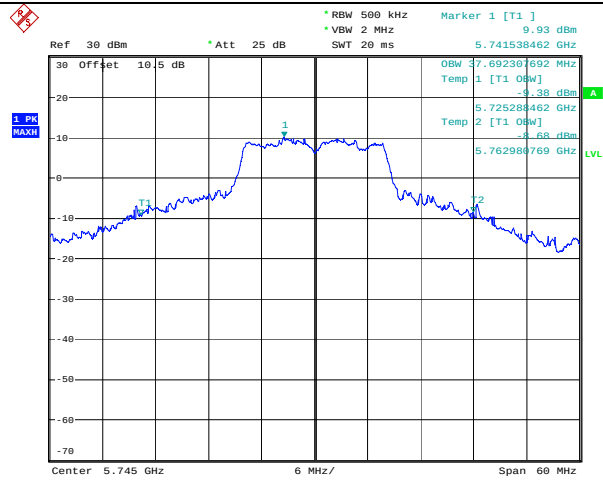
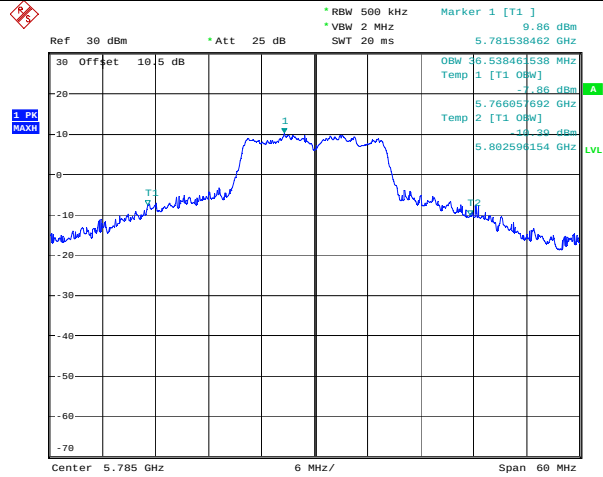
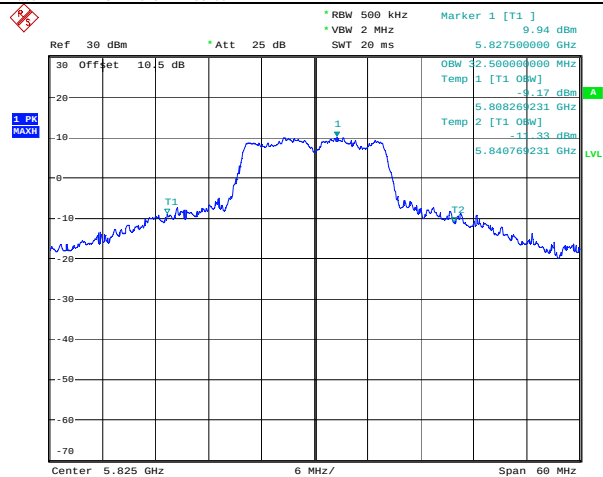
5725-5850MHz:



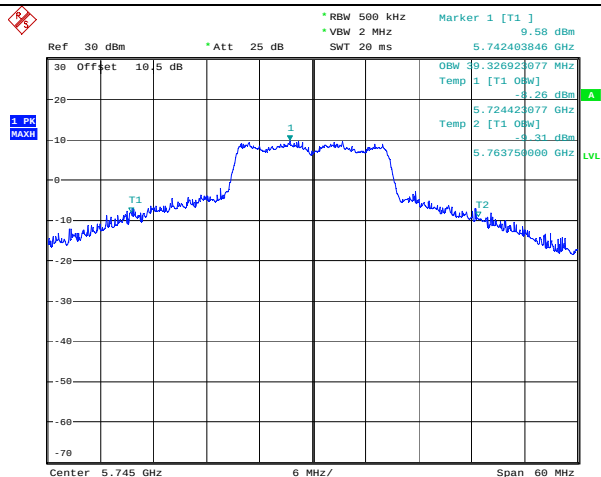
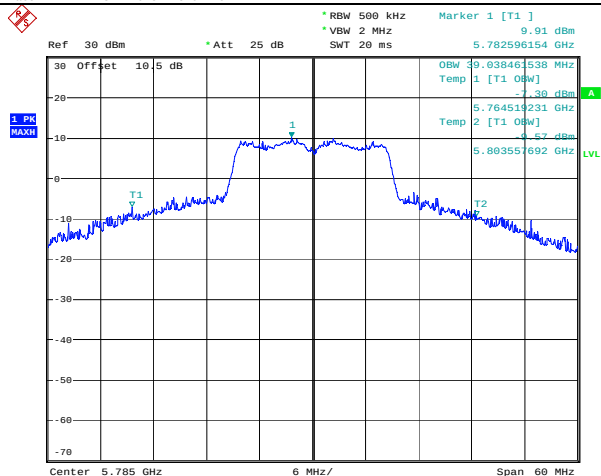
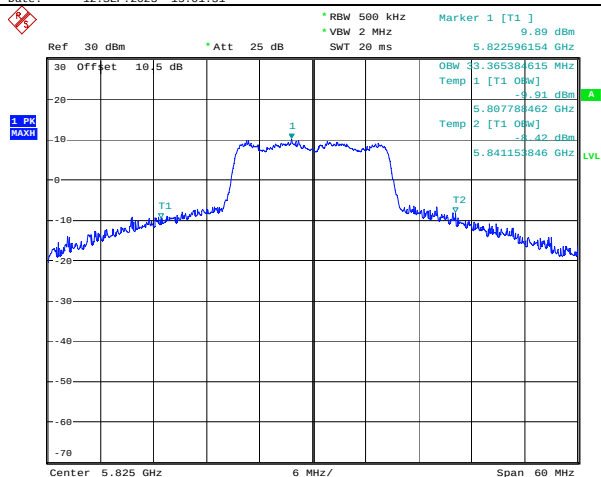




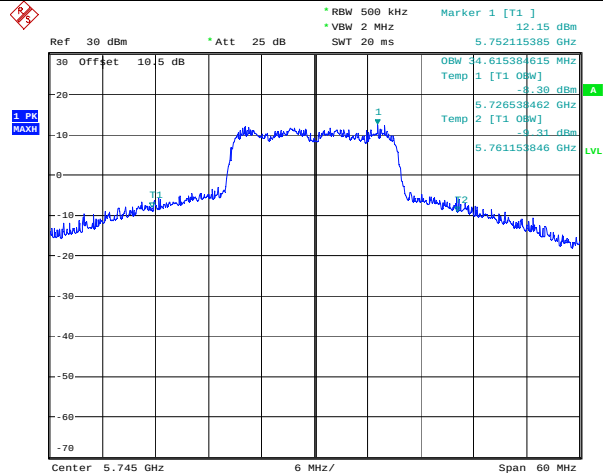
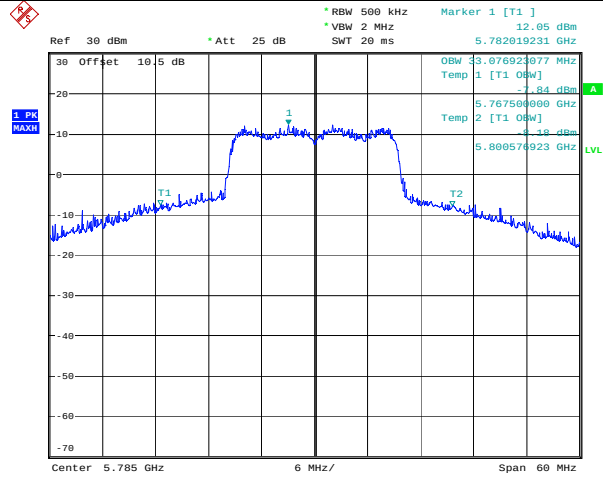
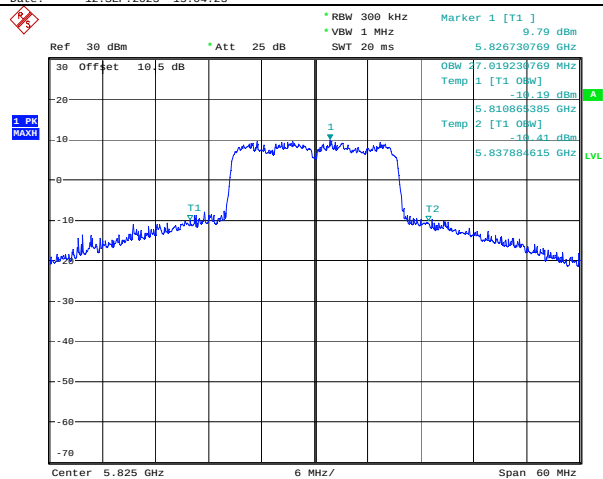
99% Emission Bandwidth

802.11a
Lowest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:56:51802.11a
Middle ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:58:09802.11a
Highest ChannelComment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 14:59:54

99% Emission Bandwidth

802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

99% Emission Bandwidth

802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

4.4 Maximum Conducted Output Power:

Serial Number:	2A8G-2	Test Date:	2023/9/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	LingLing Li	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.2	Relative Humidity: (%)	62	ATM Pressure: (kPa)	100.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Anritsu	Power Meter	ML2495A	1106009	2023/8/4	2024/8/3
Anritsu	Pulse Power Sensor	MA2411A	10780	2023/8/4	2024/8/3
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK- 18G	21060301	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)	
		Result	Limit
802.11a	5180	14.06	24
	5200	13.68	24
	5240	13.61	24
802.11n ht20	5180	13.26	24
	5200	13.09	24
	5240	12.74	24
802.11ax hew20	5180	13.51	24
	5200	13.32	24
	5240	12.96	24
Note: The device is a client device.			

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)	
		Result	Limit
802.11a	5260	12.64	24
	5280	12.37	24
	5320	12.27	24
802.11n ht20	5260	12.54	24
	5280	12.48	24
	5320	12.63	24
802.11ax hew20	5260	12.57	24
	5280	12.55	24
	5320	12.53	24

5470-5725 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)	
		Result	Limit
802.11a	5500	15.45	24
	5580	15.07	24
	5700	15.13	24
	5720	14.9	24
802.11n ht20	5500	15.59	24
	5580	15.16	24
	5700	15.22	24
	5720	14.95	24
802.11ax hew20	5500	13.95	24
	5580	13.45	24
	5700	13.43	24
	5720	13.34	24

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)	
		Result	Limit
802.11a	5745	15.91	30
	5785	15.88	30
	5825	15.73	30
802.11n ht20	5745	15.88	30
	5785	15.65	30
	5825	15.42	30
802.11ax hew20	5745	15.85	30
	5785	15.94	30
	5825	15.76	30

4.5 Maximum power spectral density:

Serial Number:	2A8G-2	Test Date:	2023/9/11-2023/9/12
Test Site:	RF	Test Mode:	Transmitting
Tester:	LingLing Li	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.9-26.2	Relative Humidity: (%)	60-62	ATM Pressure: (kPa)	100.2-100.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	100147	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Reading dBm/MHz)	Duty Cycle Factor (dB)	Maximum Power Spectral Density (dBm/MHz)	
				Result	Limit
802.11a	5180	2.44	/	2.44	11
	5200	2.33	/	2.33	11
	5240	2.04	/	2.04	11
802.11n ht20	5180	1.05	/	1.05	11
	5200	0.66	/	0.66	11
	5240	0.24	/	0.24	11
802.11ax hew20	5180	0.81	/	0.81	11
	5200	0.45	/	0.45	11
	5240	0.2	/	0.20	11

Note:

The device is a client device.

Duty cycle $\geq 98\%$, method ANSI C63.10-2013 Section 12.3.2.2 was used.

5250-5350 MHz:

Test Modes	Test Frequency(MHz)	Reading(dBm/MHz)	Duty Cycle Factor(dB)	Maximum Power Spectral Density(dBm/MHz)	
				Result	Limit
802.11a	5260	0.22	/	0.22	11
	5280	-0.02	/	-0.02	11
	5320	-0.61	/	-0.61	11
802.11n ht20	5260	-0.27	/	-0.27	11
	5280	-0.46	/	-0.46	11
	5320	-0.86	/	-0.86	11
802.11ax hew20	5260	-0.24	/	-0.24	11
	5280	-0.62	/	-0.62	11
	5320	-0.64	/	-0.64	11

Note:

Duty cycle $\geq 98\%$, method ANSI C63.10-2013 Section 12.3.2.2 was used.

5470-5725 MHz:

Test Modes	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor (dB)	Maximum Power Spectral Density (dBm/MHz)	
				Result	Limit
802.11a	5500	1.61	/	1.61	11
	5580	1.2	/	1.20	11
	5700	1.61	/	1.61	11
	5720	1.58	/	1.58	11
802.11n ht20	5500	1.85	/	1.85	11
	5580	1.31	/	1.31	11
	5700	1.97	/	1.97	11
	5720	1.24	/	1.24	11
802.11ax hew20	5500	0.01	/	0.01	11
	5580	-0.48	/	-0.48	11
	5700	-0.23	/	-0.23	11
	5720	-0.33	/	-0.33	11

Note:

Duty cycle $\geq 98\%$, method ANSI C63.10-2013 Section 12.3.2.2 was used.

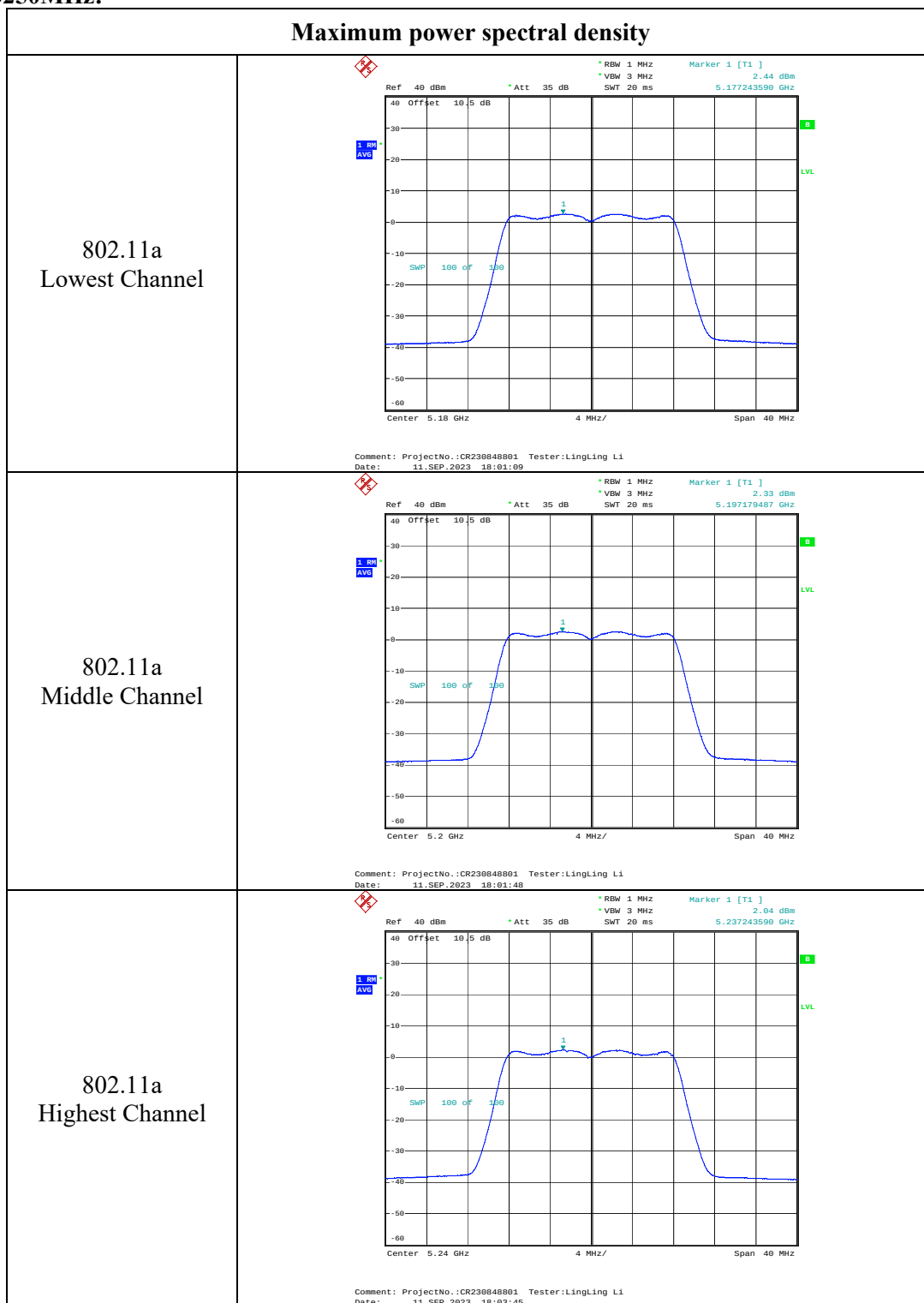
5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Reading (dBm/500kHz)	Duty Cycle Factor (dB)	Maximum Power Spectral Density (dBm/500kHz)	
				Result	Limit
802.11a	5745	1.3	/	1.30	30
	5785	1.33	/	1.33	30
	5825	1.37	/	1.37	30
802.11n ht20	5745	1.02	/	1.02	30
	5785	1.03	/	1.03	30
	5825	1.17	/	1.17	30
802.11ax hew20	5745	1.01	/	1.01	30
	5785	1.14	/	1.14	30
	5825	1.18	/	1.18	30

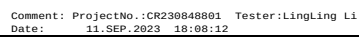
Note:

Duty cycle $\geq 98\%$, method ANSI C63.10-2013 Section 12.3.2.2 was used.

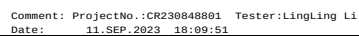
5150-5250MHz:



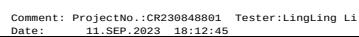
802.11n ht20
Lowest Channel

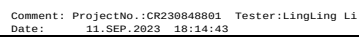
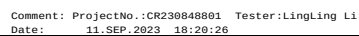
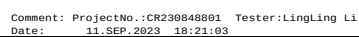


802.11n ht20
Middle Channel

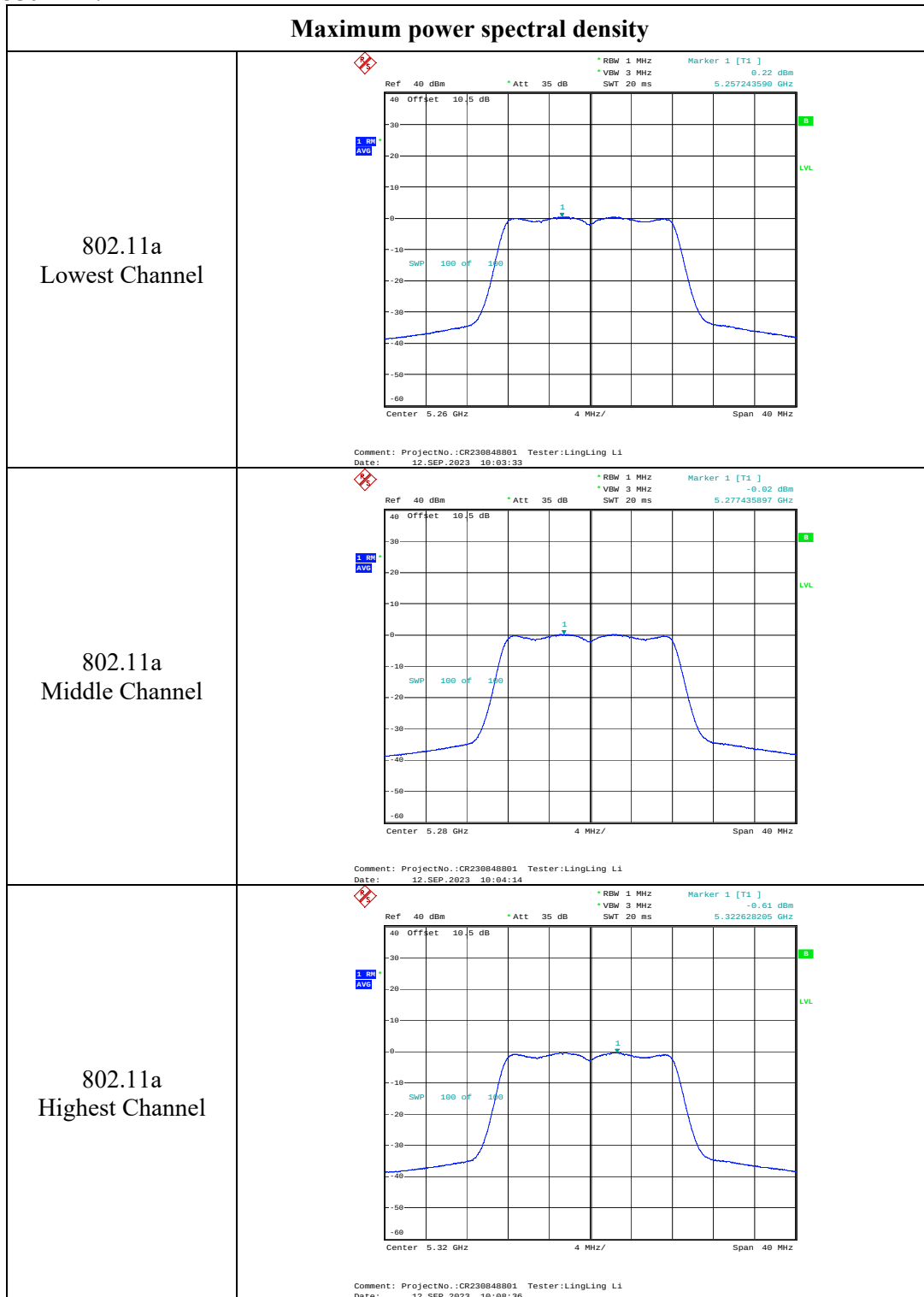


802.11n ht20
Highest Channel

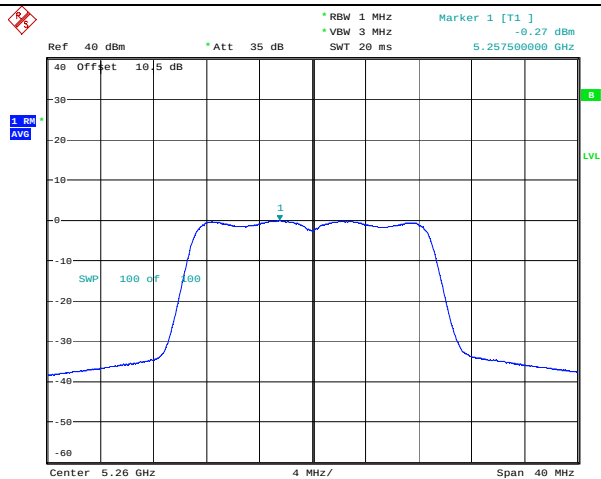


802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

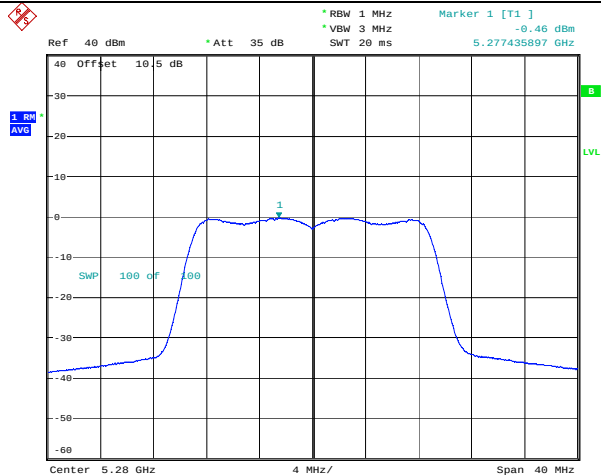
5250-5350MHz:



802.11n ht20
Lowest Channel

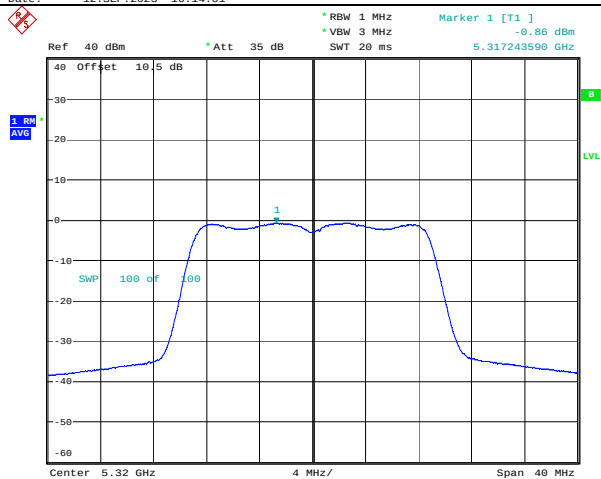


Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:13:20

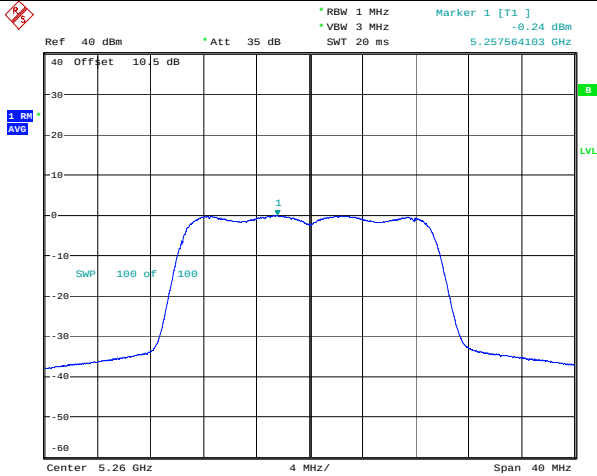
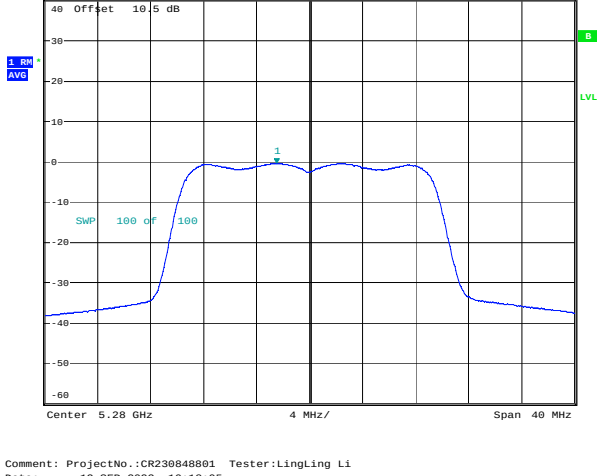
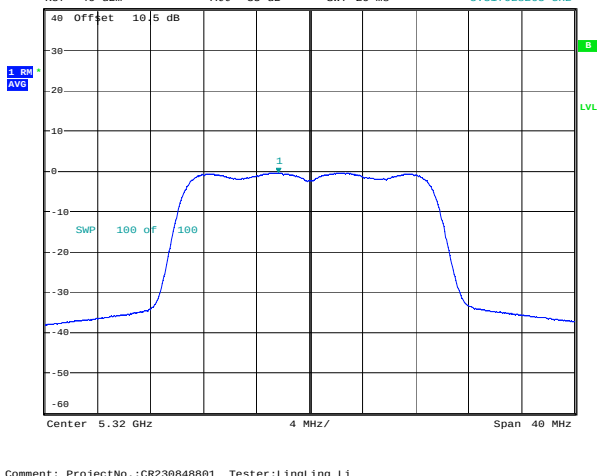
802.11n ht20
Middle Channel

Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:14:01

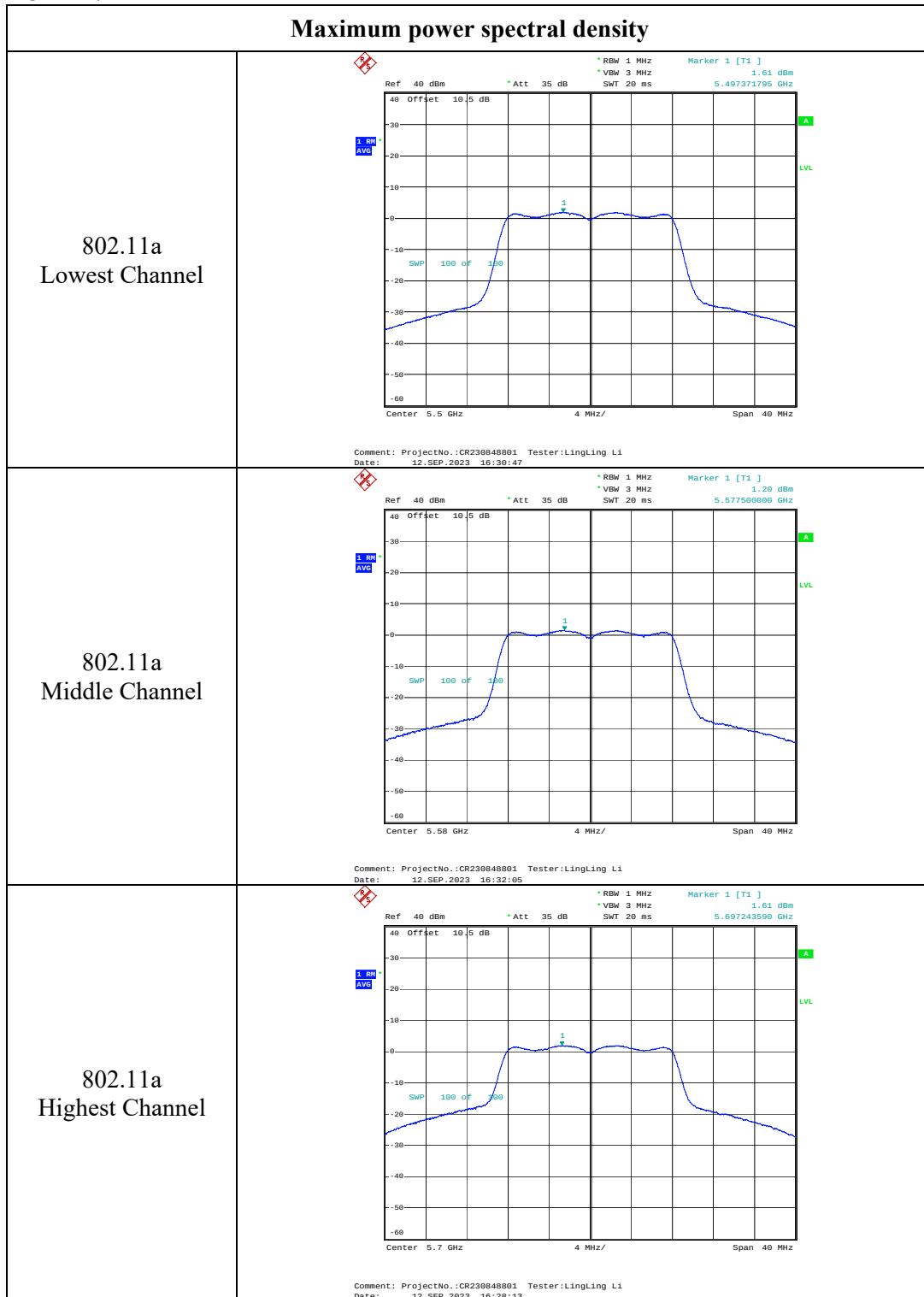
802.11n ht20
Highest Channel



Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 10:09:36

802.11ax hew20 Lowest Channel	Maximum power spectral density  Comment: ProjectNo.:CR230848801 Tester:LingLing Li Date: 12.SEP.2023 10:18:43
802.11ax hew20 Middle Channel	 Comment: ProjectNo.:CR230848801 Tester:LingLing Li Date: 12.SEP.2023 10:18:05
802.11ax hew20 Highest Channel	 Comment: ProjectNo.:CR230848801 Tester:LingLing Li Date: 12.SEP.2023 10:23:05

5470-5725MHz:



Ref 40 dBm Att 35 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Marker 1 [T1] 1.58 dBm 5.717371795 GHz

40 Offset 10 5 dB

1 RBW
AVG

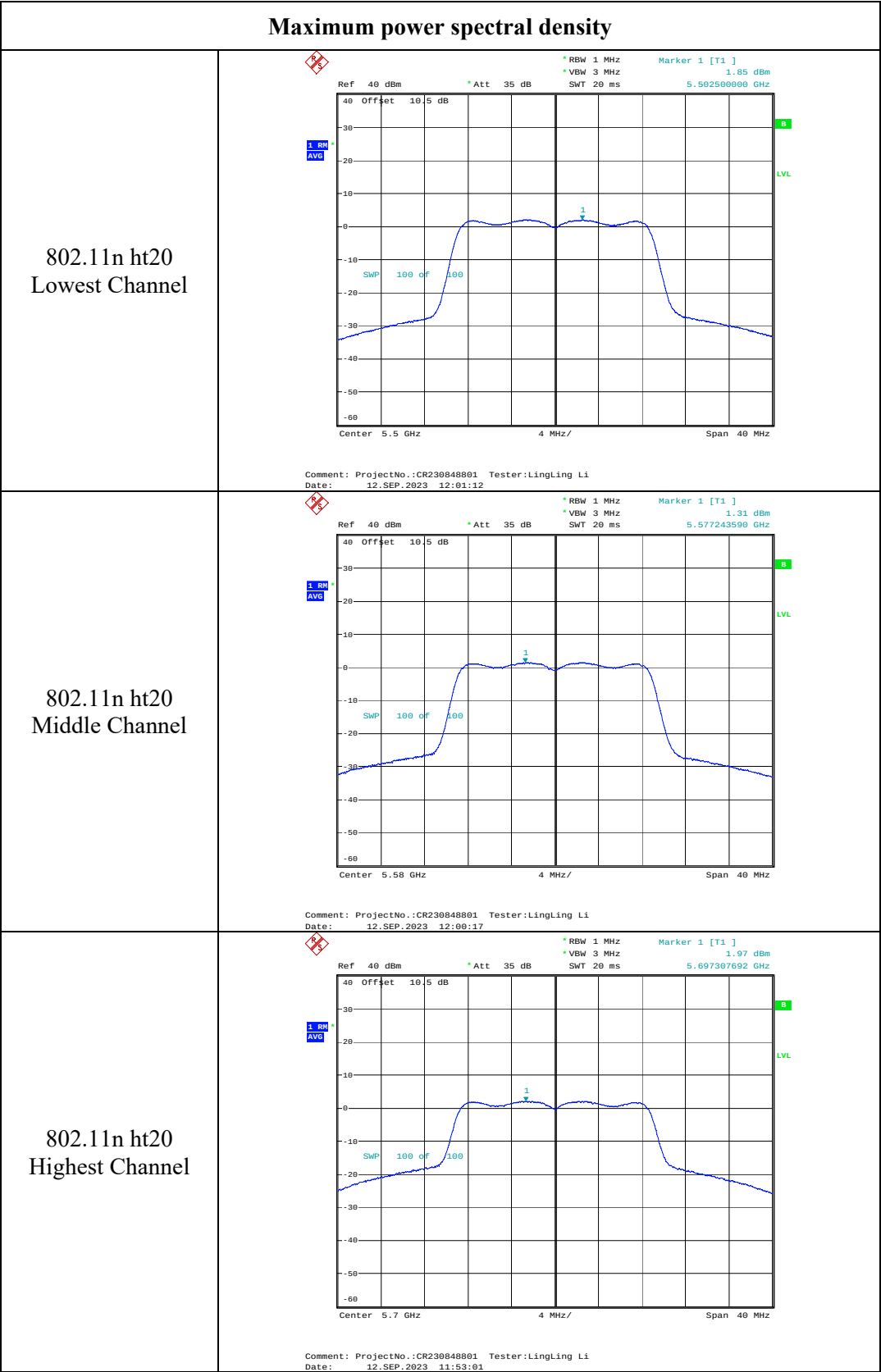
30
20
10
0
-10
-20
-30
-40
-50
-60

SWP 100 of 100

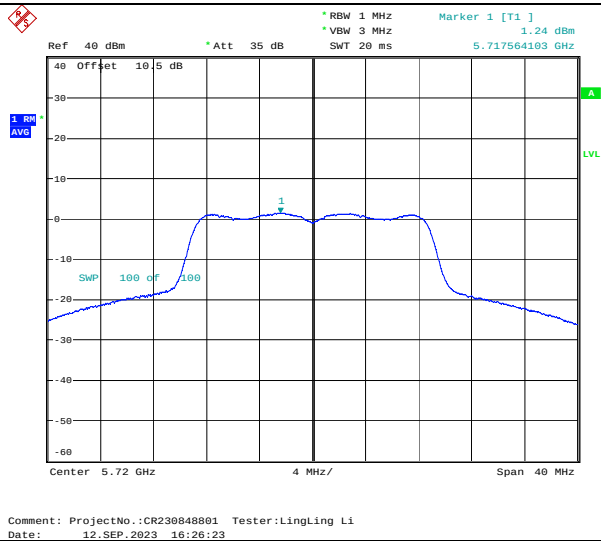
1

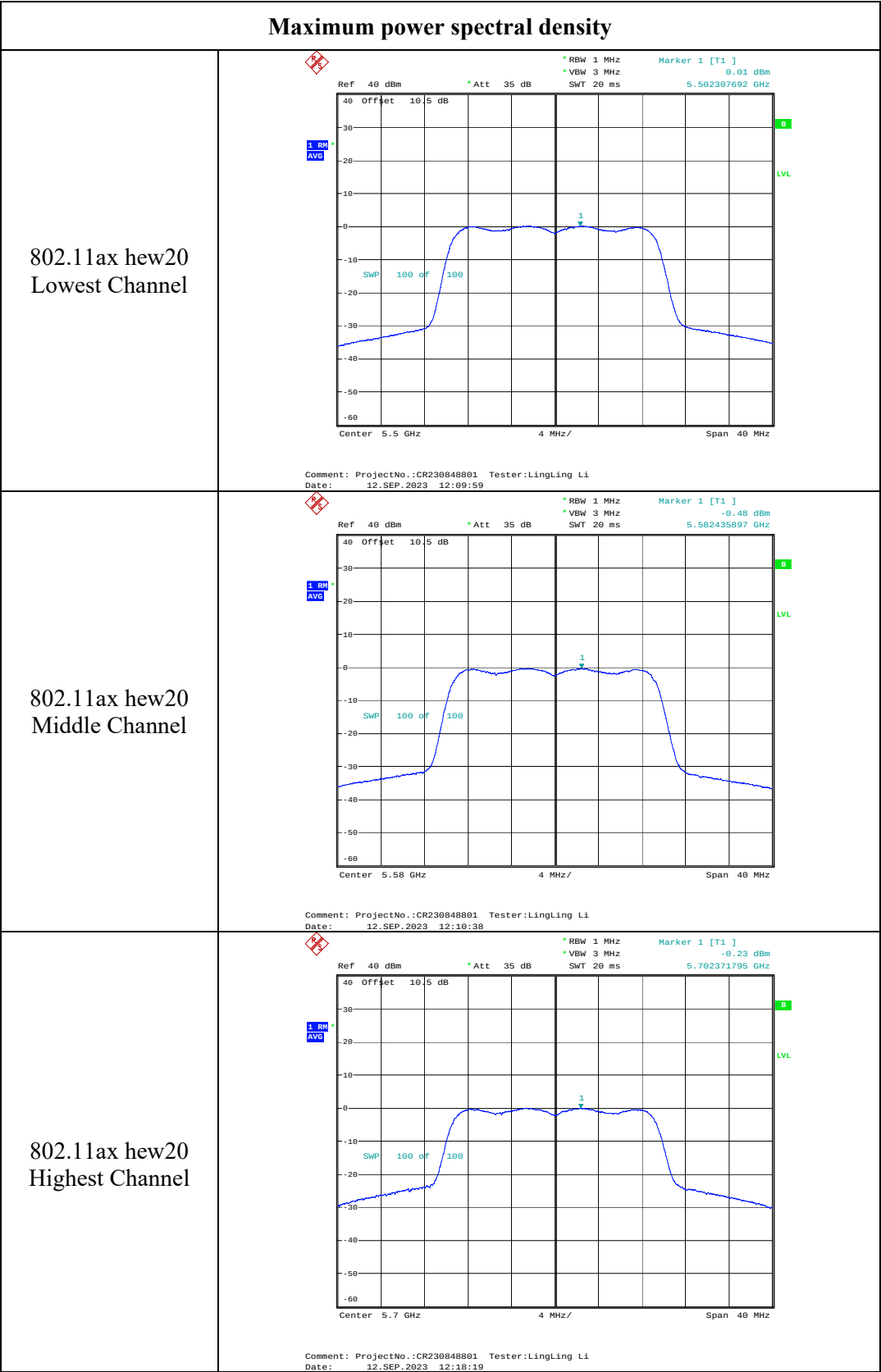
Center 5.72 GHz 4 MHz/ Span 40 MHz

Comment: ProjectNo.:CR230848801 Tester:LingLing Li
Date: 12.SEP.2023 16:29:31

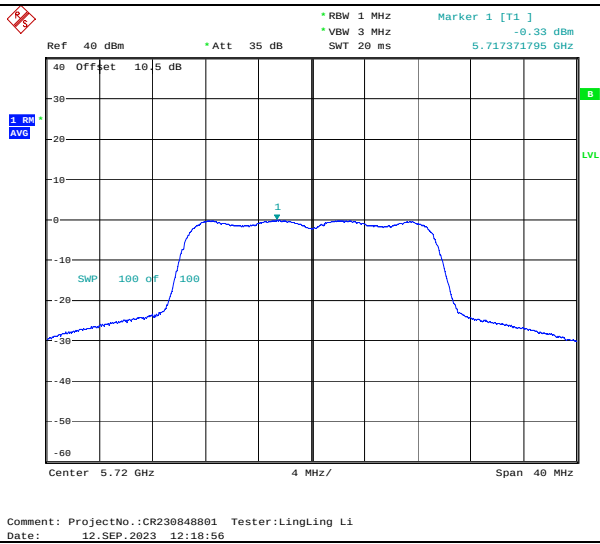


5720 MHz

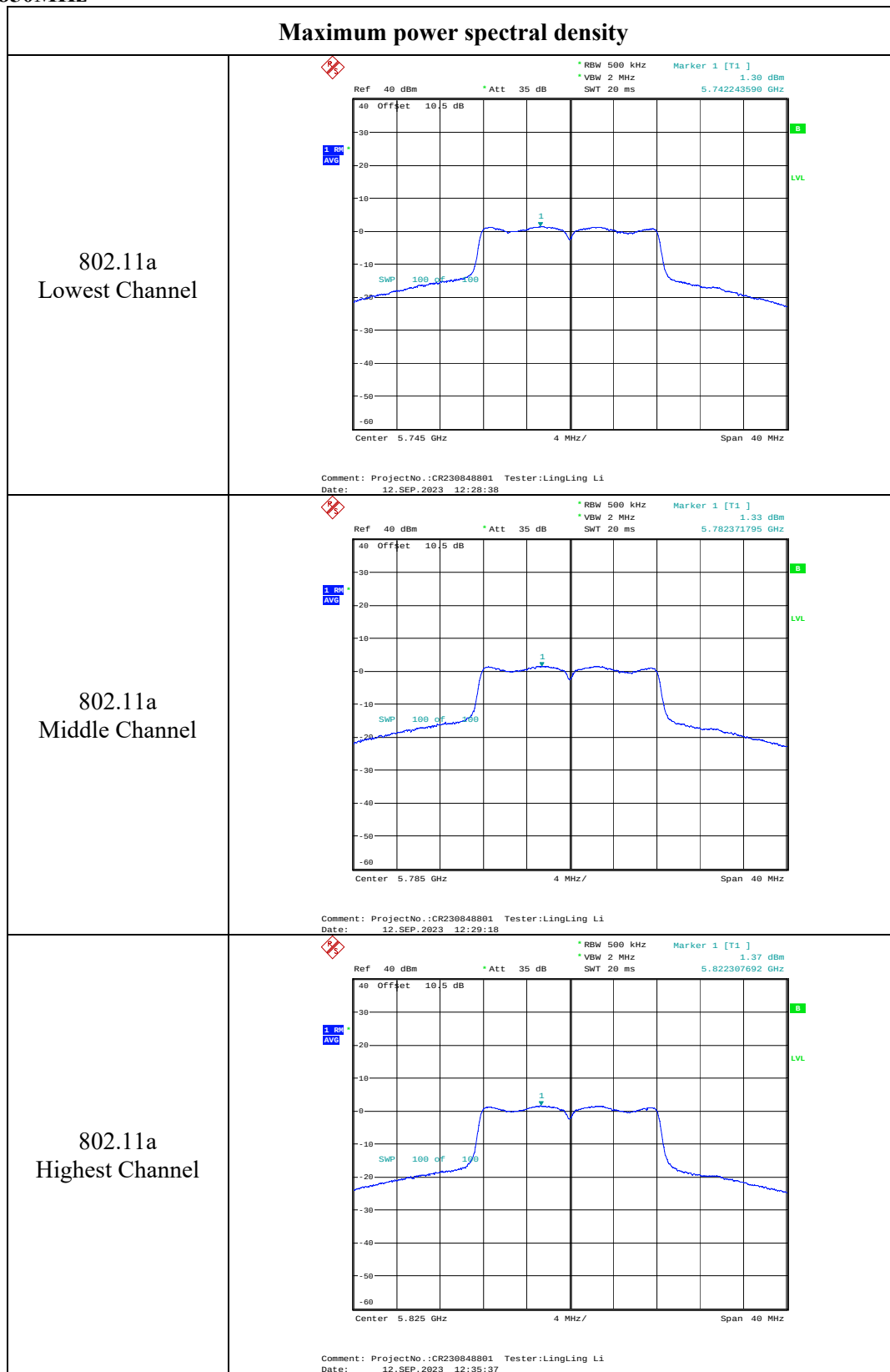




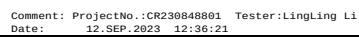
5720 MHz



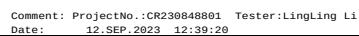
5725-5850MHz



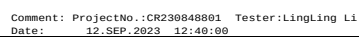
802.11n ht20
Lowest Channel



802.11n ht20
Middle Channel



802.11n ht20
Highest Channel



4.6 Duty Cycle:

Serial Number:	2A8G-2	Test Date:	2023/9/12
Test Site:	RF	Test Mode:	Transmitting
Tester:	LingLing Li	Test Result:	N/A

Environmental Conditions:

Temperature: (°C)	25.9	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2
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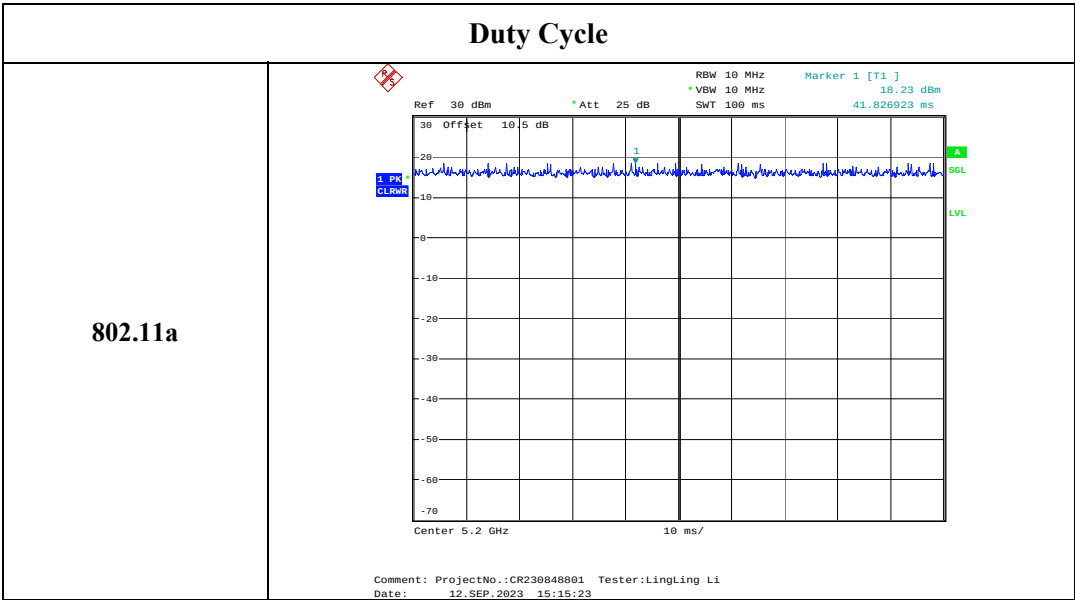
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	100147	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

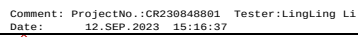
* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

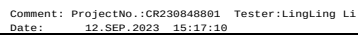
Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty Cycle Factor (dB)	VBW Setting (Hz)
802.11a	100	100	100.00	/	/	10
802.11n ht20	100	100	100.00	/	/	10
802.11ax hew20	100	100	100.00	/	/	10



802.11n ht20



802.11ax hew20



5. EUT PHOTOGRAPHS

Please refer to the attachment CR230848801-EXP EUT EXTERNAL PHOTOGRAPHS and
CR230848801-INP EUT INTERNAL PHOTOGRAPHS

6. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230848801-00C-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT =====